

MARINE REVIEW.

VOL. X.

CLEVELAND, O., AUGUST 30, 1894.

No. 9.

Full Statement of Ore Shipments.

Definite figures regarding the ore movement to August 1 are at hand, and they show an aggregate of 3,666,470 tons shipped from all ports, or a gain of 272,389 tons over the movement on the same date in 1893. A statement of shipments from Escanaba, printed below, shows that the movement from that port to August 18 was 664,959 gross tons less than on the same date in 1893. The St. Mary's Falls canal report on August 1, or about the same date on which the Escanaba report is made, showed shipments from all Lake Superior ports aggregating 3,077,623 net tons, against 1,927,793 net tons on the same date a year ago, or a gain of 1,049,830 net tons. This gain of 1,049,830 net tons from Lake Superior ports is equal to 937,348 gross tons, but the decrease of 664,959 tons in the movement from Escanaba, leaves the shipments from all upper lake ports on Aug. 1, or thereabouts, only 272,389 gross tons in excess of what they were a year ago. Following are tables giving the shipments in detail:

ESCANABA ORE SHIPMENTS.

Ranges.	To Aug. 18, 1893. Gross tons	To Aug. 18, 1894. Gross tons.	Decrease to Aug. 18, 1894. Gross tons.
Marquette range.....	516,285	289,163	227,122
Menominee range	962,493	629,429	333,064
Gogebic range.....	104,773		104,773
Total.....	1,583,551	918,592	664,959

MOVEMENT FROM ALL UPPER LAKE PORTS TO AUG. 1, 1894.

	Gross tons.
Shipments from all Lake Superior ports, according to St. Mary's Falls canal statement.....	2,747,878
Shipments from Escanaba, dock report.....	918,592

Total.....3,666,470

Decrease in Escanaba shipments as compared with about same date in 1893	664,959
Increase in shipments from all Lake Superior ports, as compared with same date in 1893, according to St. Mary's Falls canal report.....	937,348

Total increase, all ports..... 272,389

Total shipments full season of 1893.....6,058,955

On Aug. 1 no ore had been moved from Gladstone and no ore from the Gogebic range had been shipped through Escanaba. Only one of the Menominee range mines, the Pewabic, which produces ore of a special grade, has exceeded last year's shipments. The following table gives the Menominee range shipments by mines:

MENOMINEE RANGE SHIPMENTS.

Name of Mine.	To Aug. 18, 1893.	To Aug. 18, 1894.	Name of Mine.	To Aug. 18, 1893.	To Aug. 18, 1894.
Commonwealth	113,082	74,606	Lamont.....	13,777	
Loretto.....	3,119	38,971	Lincoln.....	7,477	
Aragon.....	104,835	80,036	Mansfield.....	37,333	
Chapin.....	217,355	92,611	Mastodon.....	19,374	
Claire.....	9,612		Millie.....		13,064
Columbia.....	1,218	967	Dina.....	80,949	38,306
Cyclops.....	33,094	2,684	Pluto.....	19,800	19,068
Dunn.....	44,691	4,008	Pewabic.....	140,156	185,618
Florence.....	9,540		Shafer.....	5,582	298
Great Western...	661		Vulcan.....	90,274	79,186
Hemlock.....	8,363				
Hope.....	2,201		Total.....	962,493	629,429

Lake Freight Matters.

Marked advances recorded in all branches of the lake freight market during the past ten days give positive assurance of profitable rates throughout the fall months, if there is even moderate shipments of grain toward the seaboard, and the movement of wheat already begun is sufficient to cause a feeling of confidence among vessel owners in all parts of the lakes. All advices from Duluth predict liberal receipts of new wheat during the next ten days, and there is, of course, no doubt of an abundant crop. Ore rates at this writing are very strong at 80 cents (which is equal to the contract rate) from the head of Lake Superior and 65 cents from Marquette, with a few charters covering ore to go to Toledo from Escanaba at 50 cents. On wheat from Duluth to Buffalo 2½ cents is being paid freely. Shippers are asking for offers of tonnage to load wheat during the latter half of September, but vessel owners are holding off on account of the uncertainty that usually attaches to this branch of the business at the close of the season.

The feature of the situation is the demand of Cleveland owners and

brokers for a 50-cent freight on all coal to go to Lake Superior (Portage and all other ports on that lake included) for thirty days to come. The demand is unanimous, both as regards brokers and owners, and for the first time in the history of lake business there are strong indications of the owners winning in a mutual stand for reasonable rates on coal. The agreement is of a very strong nature, and it is backed up by daily meetings, at which an account is submitted of everything pertaining to the end in view. The owners have now held out for five days in a manner entirely satisfactory to all concerned and have succeeded in chartering two boats for Fort William at the rate demanded, although shippers are trying equally hard to fight off the advance to all other Lake Superior ports.

American Steel Barge Company.

A meeting of directors of the American Steel Barge Company was held at West Superior, a few days ago, and it was followed by the usual dispatches reporting more boats to be built and a general resumption of work at the company's ship yard. The dispatches were certainly not authorized by any officer of the barge company. It is well known that the company contemplates no new work at this time, and as a matter of fact is not in a position to undertake the building of more vessels and would not be warranted in doing so under the present condition of lake shipping. With a bonded indebtedness that is probably equal to what the entire ship building plant and all the whalebacks would bring at a forced sale in times like the present, it is not at all probable that the management of this company will worry other vessel owners by bringing out any more new tonnage. Of course, this same statement might also apply just now to other big corporations that must work out their business affairs slowly, as a result of the depression that has come over the lake trade during the past two years.

The principal business before the meeting referred to, was the question of finishing the boat on the stocks at West Superior and the City of Everett at the Pacific coast yard, and it is understood that work on both of these vessels will be completed during the coming winter. The boat at West Superior will be named John B. Trevor, in honor of the New York gentlemen of that name who is a stockholder in the company.

Fairport Harbor Entrance.

Now that appropriations for river and harbor work are forthcoming, it is to be hoped that in places where immediate dredging is necessary the engineers will endeavor to furnish some relief before fall storms set in. Unfortunately, the slow methods of advertising and awaiting approvals from Washington, after bids have been received, must be adhered to, but it would seem that in urgent cases the district officers might make special efforts. For the greater part of the present season, complaints have been made almost daily about the condition of the Fairport harbor entrance, by masters whose boats have been consigned to that port. While going into Fairport a few days ago, and drawing only 14 feet 10 inches, the steel steamer Centurion grounded on the bar that has been thrown up by northwesterly winds. When the channel is entirely clear, the width (between piers) is but about 400 feet, and this is reduced now to practically 50 feet close to the pier on which the light is located. The Centurion was not warned of the danger, but she was fortunate in having power enough to work herself off without assistance after a delay of about three hours. Probably an effort on the part of Cleveland vessel owners with Col. Smith, the army engineer in charge of improvements at Ohio ports, would result in this obstruction being among the first to be removed.

Pleased with the Channel.

One of the owners of the big steel steamer Centurion, who has just made a trip on the boat, adds this note to a letter treating of other matters: "We went up and down through the new Hay lake channel and it is 'out of sight' compared with the old way. As it was the boat's first trip by the new route, a pilot was taken on both ways. Coming down, just after daylight we met a procession of ships, beginning at the middle of Hay lake and continuing until nearly to Detour. Along the dyke we passed two 'pig' tows and one other boat with no difficulty whatever, although the 'pigs' crowded us over pretty well. The gain in time is, however, very often more than overbalanced by the delay at the canal, where we were held up for nineteen hours."

Growth of the Lake Superior Lumber Trade.

Notwithstanding the general depression this season in the carrying trade of the lakes, shipments of lumber from Lake Superior, as recorded in the St. Mary's Falls canal reports, aggregated 325,966,000 feet on Aug. 1, as against 244,358,000 feet on the same date a year ago. These figures are the most forcible of all arguments in showing that the timber belts bordering on Lakes Michigan and Huron are almost exhausted, with the exception of the streams and roads supplying the towns of Menominee and Marinette, and the east is getting the bulk of its supply from the forests along the south shores and at the west end of Lake Superior and from the Canadian pineries. It is probable that between 600,000,000 and 700,000,000 feet of sawed timber will go out of Lake Superior this season, and the trade, especially from the western part of the lake, is but in its infancy. The wholesale yards at Chicago, not long ago supplied from the mills along the shores of Lake Michigan, now draw their supply almost entirely from Lake Superior and Georgian bay, while even Bay City and Saginaw are supplied from the head of Lake Superior. In the month of July alone over 35,000,000 feet of lumber were received at Bay City from Duluth, and the total shipments from that city to the east for this season have already been 75 per cent. of the business for the entire season of 1893.

A correspondent writing to Bradstreets from Duluth, and calling attention to some of the facts noted above, says: "There have been a number of new features in the lake lumber traffic this year, some of them developing late in the summer, and though caused by the almost absolute dearth of business in the northwestern country, where the greater part of the lumber manufactured in Minnesota and Wisconsin has heretofore gone for a market, they are likely to become permanent, and to result in an entire change of conditions so far as mills in the interior of the two states are concerned. Shipments of lumber are now being made to the east from docks at Duluth and Ashland, not only from mills located along the water side, but from a score or more of plants situated in northern and central Wisconsin, and northeastern Minnesota. Only a few days ago, shipments were made from Duluth of lumber originating at five points in Minnesota and two in Wisconsin. Another new condition is the direct shipment on local grades of lumber for export in large quantity. There has been sold in Duluth this season, to be exported direct to Brazil, Argentina and the West Indies, over 20,000,000 feet, while the lumbermen, learning the demands of this trade, are in expectation of increasing it very largely, and in the future making it a most important branch of their business. A great many thousand feet also of deals, or squared timbers, have been sold and exported direct to Liverpool, this chiefly from Ashland. This, while not absolutely new to the trade, is being done to a larger extent than for years. No hard wood lumber has ever gone from Minnesota forests to the eastern trade. This summer, however, a number of sales have been made, one for 1,000,000 feet, and the hardwood trade is likely to be of the utmost importance. There is a slight beginning of what is destined to be a magnificent transcontinental traffic so soon as the dearth of white pine becomes more pronounced. The Oregon cedar and fir, the sugar pine and the California redwood are the legitimate successors of the white pine of today, whose growing scarcity is shown by the increase of the more distant sources of supply. This west coast timber is already being landed at docks at the head of Lake Superior for eastern shipment, and the business will grow."

Steam Towing Machines.

Mr. Frank S. Manton of the American Ship Windlass Company seems to have been specially interested in the description, published in the REVIEW last week, of the steam towing machine that has been adopted for the Minnesota Steamship Company's new barges, and which is manufactured by his company. In writing us regarding the machine, he says:

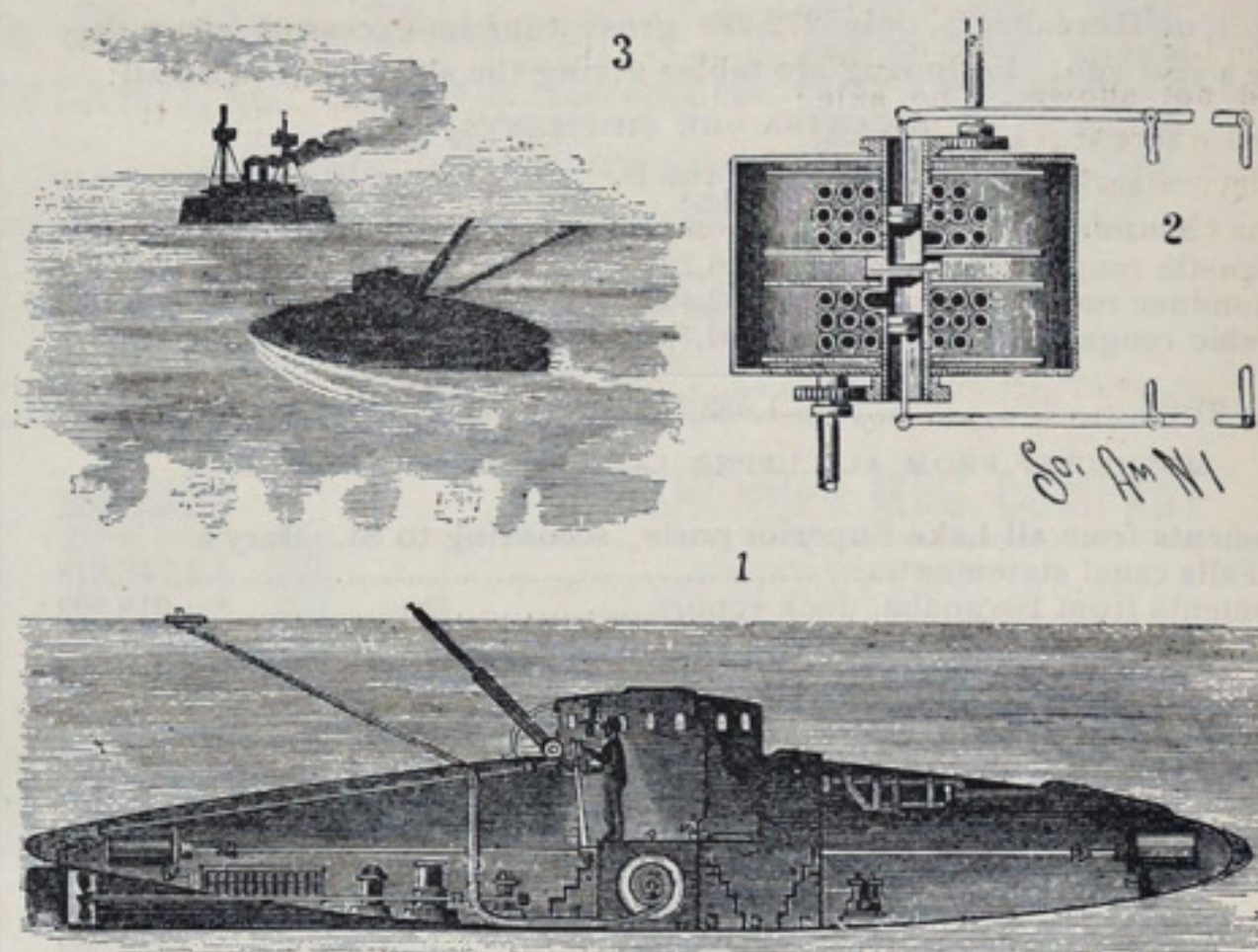
"This steam towing machine we believe to be now in the same relation to the public that our steam windlasses and steam capstans were after one or two had been tried on the lakes. We were a long time in convincing ship owners that a steam windlass and steam capstan would pay on a steam barge, but just as soon as we proved the thing practical to them, by getting one or two in operation, they all took hold of them at once, and now there is no question about the efficiency of a steam windlass and steam capstan on the lakes. It will be the same with this steam towing machine, only in this case the advantage of the machine is even greater over the present method of towing than our steam windlass and steam capstan were over the windlass and capstan then in use, for the reason that the steam windlass and capstan are only used at the ends of the route, or when anchoring, whereas a steam towing machine would be used constantly on the voyage.

"There is one point that you did not refer to and which is very important in the use of this steam towing machine. In going around a corner, or in a crooked channel, it is often necessary to bring the tow barge up nearer to the steam barge, and with this machine this can be done without lessening the speed of the vessel or changing anything in any way, by simply disconnecting the automatic arrangement, opening the steam valve and winding the hawser up on the drum, so as to bring the

craft to any point desired. After the emergency has passed, the hawser can be paid out in the same way that it was taken in, and the tow barge can be at all times placed at any distance from the steam barge that is required without slackening the speed in the least. This in connection with the other features of the machine adds greatly to its value and to its efficiency. The economy and saving in time, labor and expense of hawsers must be tried to be appreciated."

Another Type of Submarine Boat.

A boat designed to be submerged with facility to such distance below the water level as may be desired, and which is fitted with appliances for constantly supplying fresh air to the occupants, is shown in the illustration, and has been patented by Messrs. Daniel T. Frees and James D. Gawn of North Amherst, O. Fig. 1 is a sectional view of the boat submerged, Fig. 2 being a sectional view of the combined hose reel and air pump, centrally located in the bottom of the boat, while Fig. 3 illustrates the possible employment of such craft. There are near the center of the boat four or five chambers to which more or less water is admitted when the boat is to be submerged, one of these chambers extending up at the side of the air chamber occupied by the operator. Air pressure is relied on to maintain certain equilibriums in the boat in the presence of water, and



the operator, having first put on a diving suit, passes from the turret-shaped central air chamber into an adjoining chamber, where the water is kept down by air pressure, thence through a trap door in the bottom of that chamber to the deck of the vessel, when the latter is submerged. The air supply is pumped through a hose extending from the surface of the water down through the shell of the boat, the hose reel having a central cylinder in which a pump piston is operated by suitable machinery to force the air under pressure to the different chambers of the vessel. The hose at its outer end is connected with a float, of sufficient size for the purpose, and adapted to travel along on the water with the boat, but of such construction as to be as little noticeable as possible. The distance of the boat below the water level is shown by an indicator consisting of a tube in which slides a spring-supported piston, whose outer face is pressed upon by the outside water. To make observations when the boat is submerged, a telescopic tube is extended to the surface of the water, the lower tube being supported on pinion jointed bearings, and the outer and inner ends of the tubes having mirrors set at the proper angles. To facilitate balancing the boat lengthwise, the piston in a cylinder at each end is connected with a power lever under control of the engineer, in such way that water may be admitted to one cylinder and at the same time forced out of the other one, these cylinders being large enough to make a difference in the balancing of the boat. For power to drive the boat and work the machinery, an electric storage battery is preferred, a vapor engine being used if desired when the boat is at the surface.—Scientific American.

Notices to Mariners.

The tower of the old Chicago harbor light is being moved to Twin Rivers Point, Wis., where it will take the place of the old structure at that place. The order of the light at Twin Rivers will not be changed.

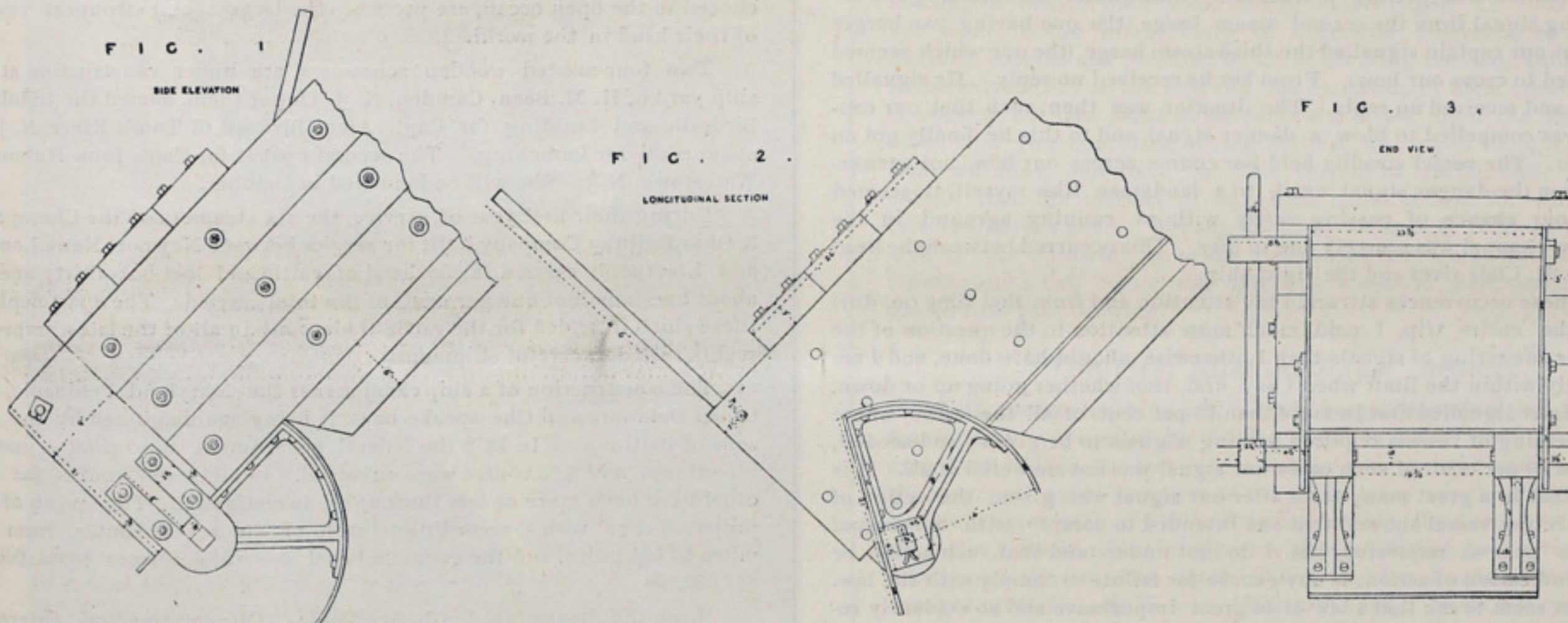
Three fixed lights, two red and one white, arranged vertically 4 feet apart, with the white light in the middle, are now shown from lens lanterns in the inclosed part of a square, pyramidal, skeleton wooden tower, located on the shore end of the west pier, and about 1,070 feet from the front light near the outer end of the pier, entrance to Black River (Lorain) harbor, Lake Erie. The lights in connection with the light on the outer end of the west pier form a range for approaching the harbor.

A Mine or Dock Pocket Stop.*

By William Kelly.

From a certain standpoint, business seems to be an aggregation of details. It needs no apology, therefore, to present to the institute a drawing and description of a device to facilitate one of the minor operations in the handling of mine products. The easy control of ore, coal or rock passing through a shute is the advantage claimed for this pocket stop. We are indebted to Mr. Larsson for the introduction of this stop, the idea of which comes from the north of England.

On the drawing, the stop is represented in three figures. The first is a side elevation, showing a part of the shute with the stop open. The middle view is a longitudinal section or vertical section through the axis of the shute. In this figure the stop is closed. The third one is an end view looking upwards at an angle of 45° through the shute with the stop open. The apparatus consists of a handle, an axle, two castings in the form of quadrants, two plates of steel and two hangers. As we have it in use at Vulcan, the handle is a lever about 4 feet 6 inches long, with a square eye to fit the axle. The handle is at an angle of about 30° with the top plate, so as to be within reach of the arm of a man standing at the side of the shute. When the stop is open, the lever is prevented from going too far by an iron fastened to the side of the shute, shown in Fig. 3. When the stop is closed, the end of the handle lies against a block of wood not shown. The axle is a bar of iron $1\frac{3}{4}$ inches square, turned round where it rests on the hangers. The hub of the castings is a cube $4\frac{1}{2}$ inches each way, cored out to fit the axle. The rim covers about 60° of the circumference of a circle 14 inches in radius. The edges of the



POCKET STOP FOR MINE OR DOCK PURPOSES.

upper arm and rim are $4\frac{1}{2}$ inches wide, strengthened by a web 1 inch wide and $\frac{3}{4}$ inch deep. The castings are held in place on the axle by two split keys.

The upper plate is flat. It measures $26\frac{1}{4} \times 21 \times \frac{3}{8}$ inches. It extends beyond the hub $4\frac{1}{4}$ inches. The curved plate is $26\frac{1}{4} \times 24 \times \frac{3}{8}$ inches. Plates $\frac{1}{2}$ inch thick would be better. These plates are riveted to the upper arm and rim of the castings, the edges being set flush. The rivets are counter sunk. The hangers are made of straps $2\frac{1}{2}$ inches by $\frac{1}{2}$ inch, bent in the form of a U. They are bolted to the side plates of the shute. These side plates, as in Fig. 1, extend beyond the shutes proper 9 inches. For 2 feet from the end, the shute is covered with plank.

When the stop is open, the top plate is flat with the bottom of the shute. When shut, the ore is choked between the top of the stop and the plank above. The stop does not completely close the shute, which is unnecessary with our ores, and being small, it is easily handled. If the ore were soft and wet it might be necessary to have it close completely. The cost of the stop put in place is between \$20 and \$25. This stop is especially adapted for a shute which is not often emptied. In dumping ore into an empty shute large lumps may bend the plates. It is best to keep a little ore on the stop. For this reason it is not particularly adapted to dock pockets, but it answers excellently for mine pockets, and may be used advantageously underground where considerable material is to pass through it and the space permits.

* From proceedings of March (1894) meeting of Lake Superior Mining Institute.

Stockholders of the Minch Transportation Company owning to the new steel steamer I. W. Nicholas, which is nearing completion at the yard of the Cleveland Ship Building Company, have elected directors as follows: H. D. Coffinberry, I. W. Nicholas, Philip J. Minch, Capt. William Gerlach and Robert Wallace. H. D. Coffinberry is president and Philip Minch secretary and treasurer.

A Dredging Job.

Gen. Poe has asked for bids on another job of dredging that forms a part of the 20-foot channel work. The shoal is bed rock and other material and is in section 8, or the Detroit river part of the ship channel, where L. P. & J. A. Smith of Cleveland are already engaged on a big contract. It is in the mouth of Detroit river, on the Hackett range and about 9,300 feet below Bois Blanc light-house. The work to be done consists in excavating a channel about 800 feet in length and 400 feet in width, to a clear depth of 21 feet below the datum plane established for section 8, ship channel. The estimated excavation above the 21-foot plane is 5,000 cubic yards of bed rock, bank measure, and about 267 cubic yards, scow measure, of material other than bed rock. The estimated amount of bed rock, bank measure, between the 21 and 22-foot planes is 6,202 cubic yards.

L. P. & J. A. Smith will probably secure this work, as they already have dredges and other apparatus at work at the mouth of the Detroit river.

Canada's New Mail Steamers.

The Canadian scheme for a 20-knot weekly mail service to and from Great Britain provides, according to the recent act of parliament, a subsidy of \$750,000 to be given for ten years, after which it is to be reduced by one-third for a like period. Quebec is to be the summer terminus and Halifax the winter port. Mr. James Huddart, promoter of the enterprise, and with whom the dominion government has made a provisional contract allowing three months to raise the necessary capital, expresses confidence

in his ability to carry out the scheme. Very little progress has been made in the matter of obtaining subsidies from the Australian government, and no promise has yet been given on behalf of the Imperial government. New South Wales already contributes £10,000 a year to the Vancouver and Sydney service, and it is probable that the amount may be increased to £15,000 for the combined services. Victoria will be lukewarm over the affair, Mr. Huddart says, unless Melbourne be made a port of call for the Pacific steamers, but he adds that the question of including the Victorian capital in the route is merely a matter of money, and an arrangement may be arrived at which will secure a contribution from the southern colony. Queensland, South Australia and West Australia are neutral. The New Zealand representative at the Ottawa conference promised a subsidy of £10,000 a year on behalf of his government if Auckland were made a port of call.

Stocks of Grain at Lake Ports.

The following table, prepared from reports of the Chicago board of trade, shows the stock of wheat and corn in store at the principal points of accumulation on the lakes on August 25, 1894:

	Wheat, bu.	Corn, bu.
Chicago.....	24,330,000	1,219,000
Duluth.....	2,685,000	
Milwaukee.....	733,000	
Detroit.....	1,360,000	3,000
Toledo.....	2,752,000	11,000
Buffalo.....	1,555,000	153,000
Total.....	33,415,000	1,386,000

At the points named there is a net increase for the week of 1,209,000 bushels of wheat, and 20,000 bushels of corn.

Neglect Regarding Passing Signals.

Editor MARINE REVIEW: Can you spare space in your valuable paper to permit me to call attention of the public and proper officers to what seems to me a very important matter, concerning which somebody must be at fault. I have recently returned from a trip around the lakes on a steamer, during which we traversed Lakes Huron, Michigan, Superior and the connecting waters, covering them all both up and down.

As I understand it, the law requires steam vessels meeting each other to indicate by signal, when at a safe distance apart (and I understand it to be half or three quarters of a mile) the course which each intends to take and the side on which each desires to pass the other. I understand that there is absolutely no exception to this requirement, and of course, every one can see that a compliance with it is of the utmost importance to the safety of life and property. Our boat left Detroit about 1 o'clock a. m., and when we came on deck in the morning we were in the St. Clair river. I had scarcely been on deck half an hour before we met a large steam barge coming down, which, to my surprise, failed utterly to answer our passing signal. Shortly afterwards, as we were leaving the river and while the men were putting their log overboard, we saw approaching us, first, a steam barge; second, a steam barge with two vessels in tow, and third, a steam barge whose course was such as to indicate that she intended to cross our bow. Our captain gave the proper signal to indicate to the first steam barge that he desired to pass on the port side. This signal was, after some delay, answered. Our captain indicated to the second steam barge that he desired to pass him also on the port side. Considerable delay ensued before this signal was answered—to me, at least, it seemed that the situation was getting precarious. Immediately on receiving the answering signal from the second steam barge (the one having two barges in tow) our captain signalled the third steam barge (the one which seemed inclined to cross our bow). From her he received no reply. He signalled again and received no reply. The situation was then such that our captain was compelled to blow a danger signal, and to this he finally got an answer. The vessel steadily held her course across our bow, not answering even the danger signal until, to a landsman like myself, it seemed that our chance of passing safely without running aground in the narrow channel was scarcely one in fifty. This occurred between the head of the St. Clair river and the light-ship.

These occurrences attracted my attention and from that time on, during the entire trip, I paid much more attention to the question of the proper answering of signals than I otherwise should have done, and I am entirely within the limit when I say, first, that whether going up or down, our vessel signalled first in more than 75 per cent. of all the cases where the meeting of vessels required passing signals to be given; and second, that in 50 per cent. of such cases our signal was not answered at all. It is true, that in a great many cases after our signal was given, the action of the meeting vessel showed that she intended to comply with our signal and to pass as requested, but I do not understand that such action, or such indication of action, is any excuse for failure to comply with the law. It does seem to me that a law of so great importance and so evidently required to insure the safety of life and property, should be strictly complied with and that there should be some officer or agent of the law whose duty it is to see that the requirements of the law are not neglected.

Another thing. On our way down we stopped at Detour for coal and left there in the evening. Owing to the lateness of the hour and the prevailing smoke and haze, it was decidedly dark. A mile or two out of Detour I noticed a heavy smoke ahead of us (distant perhaps of half a mile) and almost directly in our course, which, after a moment, I ascertained to be in motion. I called the captain's attention to it and with the aid of the glass he was able to determine that it was a small tug, or steam yacht, under way. Not a light of any kind was shown from it. The course of our vessel was changed slightly, so as to pass safely to the rear of the tug, and not until we were slightly more than abreast of it, so that we could see into the engineer's room and see the small lantern hanging at the boiler head, could we see any light aboard her of any kind, and when far enough by to close the opening through which we saw this light, no other light was visible upon it. The attention of the captain and the mate as well as myself, was called to the occurrence, and we all agreed that there was a moving steam vessel, directly in the line of vessels going up and down the lake, between 10 and 11 o'clock at night, without a single one of the lights required by law to be shown upon it. Surely, there should be some means afforded to prevent such occurrences as this.

In conversation with officers and owners of boats, I find it to be well understood, particularly with reference to the matter of passing signals, that the law is not complied with. One mate of a vessel said to me that on many vessels it was as much as the mate's job is worth to blow a passing signal when the captain was asleep; that in ordinary weather and under what they regarded as safe circumstances, the mate made no pretense of complying with the law for fear of the wrath of the captain whose slumbers might be disturbed. Such an excuse as this may be satisfactory to the captain or his mates, but it would hardly seem to me such an excuse as would be regarded entirely sufficient in the eyes of the law.

I trust you will pardon my intruding upon your space, but, perhaps, in such evasions of the law, may be found an explanation of many of these incomprehensible accidents which we so often hear about as occurring upon the lakes. I have no doubt that my experience has not been an exceptional one; that other travelers upon the lakes this summer have noticed the same thing, and I venture to suggest that similar communications on their part might be instrumental in securing a more strict compliance with the law, in which, I am sure, we are all interested.

Bay City, Mich., Aug. 27, 1894.

E. A. COOLEY.

In General.

"Modern Light-House Service" is interestingly treated of in a concluding article by E. P. Adams, a United States light-house surveyor, in the September number of Cassier's Magazine.

Russia is about to add to her navy two powerful ironclads. One to be named the Grand Admiral Apraxine, 4,120 tons, is intended for the defence of the coasts of the Baltic sea, and the other, called the Rostislaw, 8,800 tons will be attached to the Black sea fleet.

In accordance with a recent act of congress, the revenue cutter service now has an engineer-in-chief, Mr. John Wilkie Collins, having been appointed to the position recently. Mr. Collins has for two years been detailed as an engineer officer in the bureau without having any well-defined position under the law.

Of thirty-three light-ships in the United States on June 30, 1893, twenty-eight are on the Atlantic coast, four on the lake coast and only one on the coast of the Pacific ocean. The latest built vessels, which are anchored in the open ocean, are probably the largest and strongest vessels of their kind in the world.

Two four-masted wooden schooners are under construction at the ship yard of H. M. Bean, Camden, N. J. One of them, named the J. Holmes Birdsall, and building for Capt. Amos Birdsall of Tom's River, N. J., is about ready for launching. The second boat is for Capt. John Holmes of Watertown, N. J. She will be launched in October.

During their first year of service, the six steamers of the Chesapeake & Ohio Railway Company, built for service between Newport News, London and Liverpool, carried 12,858 head of cattle and lost but thirty-one, or about one-fourth of one per cent. of the total carried. The apartments of these ships intended for the cattle trade, contain all of the latest improvements suited to careful shipments.

The construction of a ship canal across the Maryland Peninsula, between Delaware and Chesapeake bays, is being again agitated by the citizens of Baltimore. In 1878 the federal government appropriated money for surveys, and five routes were surveyed. In all, seven routes for this canal have been more or less thoroughly investigated. The length of the proposed canal varies, according to each of the seven routes, from 13½ miles to 50½ miles, and the estimated cost also ranges from \$8,000,000 to \$41,000,000.

From the Steamship, Leith, Scotland: "Our esteemed and enterprising contemporary, the MARINE REVIEW, of Cleveland, O., on June 30 issued a double number, the greater part of which is devoted to an elaborate description of the magnificent new lake steamer North West. With the number in question are issued no fewer than seven two-page plates of a very superior kind, accompanied by some sixteen columns of letter press description of the vessel and her machinery and numerous full page and smaller illustrations. The number admirably shows the enterprise of the proprietors, who are to be congratulated on the issue of one of the finest illustrated descriptions of American steamship building that has yet come under our notice. In another part of the current issue we publish an abbreviated description of the North West, with illustrations, and give as a supplement a two-page engraving of the vessel."

The Shenandoah.

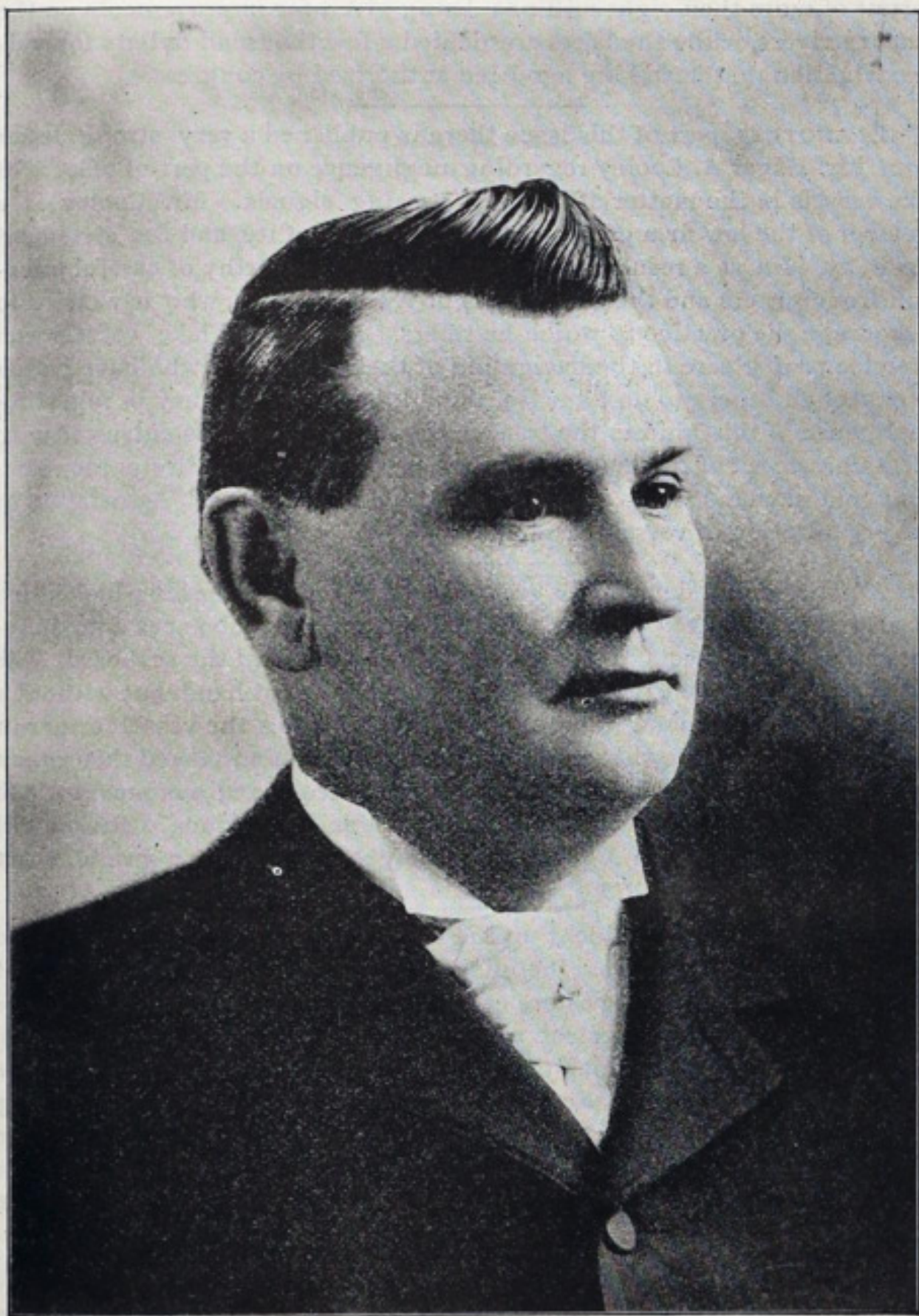
Capt. James Davidson's latest big wooden steamer, the Shenandoah, has just delivered a cargo of ore at Ashtabula and is loading coal at Cleveland for Duluth. She attracted a great deal of attention in Cleveland and is without doubt among the finest wooden ships. Capt. C. S. Furey is in command of the Shenandoah. She is 330 feet over all, 43 feet beam and 26 feet hold and carries about 2,800 tons of ore. Her equipment of labor saving machinery is entirely modern and she has the advantage of the Howden forced draft system in connection with her propelling power.

An accident like that which occurred to the big passenger steamer North West, Wednesday, should not in any way injure the patronage of the boat. Lake men who are acquainted with the locality in which she was stranded—Bar point, at the mouth of the Detroit river—knew that her release was only a matter of a few hours' work. It is not to be expected that any boat going through the narrow channels in connecting waters of the lakes will escape grounding for any great length of time, especially in fog or smoke, but of course there is no great anxiety over such accidents further than relates to damage to the ship.

A Trip Around the World.

No face is more familiar to the thousands of people engaged in lake shipping from the wealthiest vessel owner to the most unfortunate of deckhands, than that portrayed here. Distinguishing qualities in the character of A. R. Rumsey, shipping master of the Lake Carriers' Association, have formed a study for many people with whom he has come in contact. Aside from any reference, good or bad, to his relations for many years between vessel owners and their employes on the lakes, his strange history and advancement to a fair degree of wealth and influence among prominent men would form the theme for a very interesting story.

But it is another matter, also interesting and characteristic of the man, that prompts the printing of his portrait at this time. His greatest



A. R. RUMSEY.

ambition for a number of years past has been to make a trip around the world. He expressed his intentions in this regard several times of late, and now he is to make the trip, starting about Dec. 1, and at the expense of vessel owners in different lake cities, mainly Cleveland. A few weeks ago, a party of Cleveland owners surprised Rumsey by handing him a paper containing the following with their signatures attached:

"For fourteen years you have been in the service of the Lake Carriers' Association, and its predecessor in Cleveland, the Cleveland Vessel Owners' Association, and have so well discharged the exacting duties of your position that we have in mind to make some fitting expression of our satisfaction and our appreciation of your faithfulness. Learning that you have long had the desire to make a trip around the world, and believing that the gratification of this desire will afford you more real pleasure than you would obtain from any other testimonial, we cordially extend to you an invitation to make the trip, the expense of which will be made up by our voluntary contributions."

Not much difficulty was found in adding other names to the originals, as will be seen by the following list, which includes nearly all of the wealthiest men in the iron ore and vessel business in Cleveland and Buffalo: James Corrigan, M. A. Bradley, D. R. Hanna, L. C. Hanna, M. A. Hanna, H. A. Hawgood, Philip J. Minch, W. C. Richardson, B. L. Pennington, J. H. Sheadle, Fred. A. Morse, William McLauchlan, W. P. Murray, James Pickands, Thomas Wilson, P. McKinney, H. J. Webb, Alfred Mitchell, J. T. Hutchinson, William Chisholm, A. C. Saunders, Harvey D. Goulder, J. A. Smith, John B. Smith, Luther Allen, W. A. Hawgood, Joseph R. Oldham, William S. Mack, J. W. Moore, Mathew Thomas, Thomas R.

Teare, T. F. Newman, D. Z. Norton, E. C. Pope, S. H. Holding, John Mitchell, John F. Pankhurst, Caleb E. Gowan, R. R. Rhodes, W. J. Rattle and Harvey H. Brown, all of Cleveland; S. D. Caldwell, E. T. Evans, John Gordon, Washington Bullard, J. J. H. Brown, John Rice, M. M. Drake, F. F. Henry and James Ash of Buffalo; A. A. Parker of Detroit.

Now that Rumsey's ambition is about certain of being gratified, he is making all sorts of plans for the trip. Letters from statesmen of no less degree than William McKinley and John Sherman have been jotted down in his memoranda of plans. He will leave for Vancouver with the close of the season of navigation, there to take one of the Canadian Pacific steamers westward, and expects to make the circle of the globe in about four months.

More of the Patent Claims.

Mr. E. Platt Stratton, surveyor for the Record of American and Foreign Shipping publishes a very pointed letter addressed to John Haug, naval architect of Philadelphia, who saw fit to criticise his claims for a patent on certain details of construction applied to the lake steamers S. S. Curry and Merida. Mr. Haug's reference to the patent claims of Mr. Stratton is contained in the REVIEW of Aug. 16. Mr. Stratton now says: "I have noted the communication in the American Shipbuilder, in which you mention me by name, refer to my patent for 'improvement in the construction of vessels' and submit a sketch prepared by you dated, Jan. 18, 1893, with the statement that it is 'nearly the same as Mr. Stratton's but more efficient.' As to the greater efficiency of your claimed method, discussion is unnecessary, since 'you yourself have said it' and I fully appreciate the spirit and animus of your communication, for which I care nothing beyond its publication in a reputable paper. In your statement you avoid, either intentionally or otherwise, reference to the other methods covered and patented by me of securing the longitudinal girders to the extremities of the hull and the extension of them above and below the beams, but take pains to lay particular stress upon the empty statement that you conceived of your method, which you claim is nearly the same as mine, and fixed the date thereof as Jan. 18, 1893. I therefore submit that the method of improved construction, for which I have received letter's patent, was suggested by me Oct. 5, 1892, and incorporated in the construction of the steamships S. S. Curry and Merida three months and a half before the date you claim to have conceived of or placed it on your drawing."

The First Atlantic Screw Steamer.

With all that has been said of early ocean steamships and the historic transatlantic voyages of the paddle steamers Sirius and Great Western, away back in 1838, the fact is less well known that the real forerunner of the mammoth screw steamers of the present day was the steamship Great Britain, commenced in 1839 and floated in 1845, the first screw steamer to cross the Atlantic. Her length over all was 322 feet, her extreme breadth a little over 50 feet, her depth 32 feet and her displacement at a load draught of 18 feet, 3,618 tons. Her first voyage from Liverpool to New York was commenced on July 26, 1845, and occupied nearly fifteen days, the average speed during the run being nine knots an hour. Voyages back and forth were made with satisfactory results until the autumn of 1846, when, on a very dirty night in the month of September, she was stranded off the coast of Ireland. There she remained for eleven months, through a tempestuous winter, until she was finally floated in the following autumn and taken to Liverpool for repairs. After a complete overhaul the vessel entered upon a new era in her existence, being put by new owners into the Australian trade, where she retained the name of being a splendid sailer and a fairly successful steamship. Entering upon this trade in 1853 she remained in it for twenty-one years, until the requirements of modern passenger transit had outgrown her capabilities. Finally her propelling machinery was removed and only a few years ago she was seen passing up the English channel as a full-rigged sailing ship. She is probably still in existence, having last been known to do duty as a coal hulk in one of the Pacific islands.—Cassier's Magazine.

A dispatch from Princeton, Ill., says that bids for the beginning of work on the east end of the Hennepin canal will be called for in a few days. This canal which is intended to eventually connect the Mississippi river with Lake Michigan at Chicago, and which was accorded an appropriation in the river and harbor bill of two years ago, leaves the Mississippi river below Rock Island, near the mouth of the Rock river, and runs along the latter to a point near Colona, from which point it goes up the valley of Green river for a short distance and then strikes across the prairie in an almost direct line toward Wyanet. At the latter point it leaves the prairie and commences the descent to the Illinois river by utilizing the valley of Bureau river.

Subscribers will avoid danger of mistakes by giving the old as well as the new address when a change is desired.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 516 Perry-Payne building, Cleveland, O.

SUBSCRIPTION—\$2.00 per year in advance. Single copies 10 cents each. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department contain the names of 3,761 vessels, of 1,261,067.22 gross tons register in the lake trade. The lakes have more steam vessels of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The number of steam vessels of 1,000 to 2,500 tons on the lakes on June 30, 1893, was 318 and their aggregate gross tonnage 525,778.57; in all other parts of the country the number of this class of vessels was, on the same date, 211 and their gross tonnage 314,016.65. The classification of the entire lake fleet on June 30, 1893, was as follows:

Class.	Number.	Gross Tonnage.
Steam vessels.....	1,731	828,702.29
Sailing vessels.....	1,205	317,789.37
Canal boats.....	743	76,843.57
Barges.....	82	37,731.99
Total.....	3,761	1,261,067.22

The gross registered tonnage of vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

	Number.	Net Tonnage.
1889.....	225	107,080.30
1890.....	218	108,515.00
1891.....	204	111,856.45
1892.....	169	45,168.98
1893.....	175	99,271.24
Total.....	991	471,891.97

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC.

	St. Mary's Falls Canal.			Suez Canal.		
	1893.	1892.	1891.	1893.	1892.	1891.
No. vessel passages	12,008	12,580	10,191	3,341	3,559	4,207
Ton'ge, net regist'd	9,849,754	10,647,203	8,400,685	7,659,068	7,712,028	8,698,777
Days of Navigation	219	223	225	365	365	365

Entered at Cleveland Post Office as Second-class Mail Matter.

PRESIDENT JAMES CORRIGAN of the Lake Carriers' Association has accomplished, in his efforts to bring vessel owners together in business matters, a few things that certainly entitle him to a great deal of credit. With Mr. M. A. Bradley, who has joined him in various matters pertaining to the mutual advantage of the vessel interests, he has led during the past week the independent movement of Cleveland vessel owners for better freights on soft coal, and it may be said that on this question the owners of Cleveland are now certainly in earnest, although they have been a long time coming to it. In taking up this matter Mr. Corrigan has gone beyond his duty in the association, which takes no part in freights, and in this regard he sacrifices certain of his own interests, as he is a producer and a shipper in the lake trade, more so than a vessel owner, and must by his leadership in such a movement incur the ill-will of the coal dealers. There is no question of an honest purpose in the coal freight matter. Mr. Corrigan has undoubtedly gone into it, with others who have joined him, for the simple reason that he considers the coal carrying business reduced to a basis that represents a steady loss to the vessels, and for the reason also that the demands of owners are entirely legitimate and have been forced by the methods of the coal dealers themselves. A combination among vessel owners on freights generally is discouraged in many quarters, on account of disadvantages that would result from it, but on this special question of coal freights there is no doubt of Mr. Corrigan being fully indorsed, even by members of the Lake Carriers' Association who are opposed to freight matters being brought into that organization. The system of tow barges in the lake trade has contributed as much as anything else to the general reduction in carrying charges, and discrimination by coal shippers against the tow barges has had most to do with causing owners to take the stand they are now taking. If the effort is a success, Mr. Corrigan will have much to be proud of. With the assistance of Mr. M. A. Bradley and a few leading owners in other cities, he was instigative in bringing together the Cleveland Vessel Owners' Association and the old Lake Carriers' Association, and he is entitled to a great deal of credit for the thorough organization that has since been maintained in the new body. Through his efforts, mainly, during the session of congress just closed, funds were collected from ore dealers and vessel owners to maintain representation in Washington in opposition to a free trade section as regards ore in the tariff bill, and success in this respect was also reached without involving the association in the matter.

COMMANDER MEAD, who has been in charge of light-houses on Lakes Huron and Superior, defends the light-house board in the matter of appropriations recommended for the lakes, by saying that in a district on the Gulf of Mexico, where he was located some time ago, the service was not near so complete as that of the lakes. What comparison can be drawn between the gulf and the lakes as regards the commerce and the number of vessels owned in the two districts? But any criticism of the light-house institution from lake vessel owners is not intended to apply to the naval or army engineer officers who are given charge of the several districts and who carry on the details of the service in the best possible manner with the appropriations accorded them. The trouble is in Washington, where the system of department or bureau recommendations regarding a measure like the last sundry civil appropriation bill, for instance, will permit of more than eight millions being given for improvements on the western rivers, while the lakes are denied a few thousand dollars for aids to navigation that have long ago been authorized by congress.

IN ANOTHER part of this issue there is published a very strong letter from Mr. Edgar A. Cooley regarding negligence on the part of officers of lake vessels in the matter of blowing passing signals. Mr. Cooley is a member of the law firm of Hatch & Cooley of Bay City, and the statement made by him as a result of a trip on the lakes is worthy of careful attention from owners and the better class of vessel masters, who have tried to discourage the practice to which he refers. Masters of lake vessels who exercise proper care in the navigation of their ships, and who have reason to expect all others to do likewise, should have no hesitancy in reporting negligence of this kind to the treasury department officials entrusted with the enforcement of the law. The practice has become entirely too common and demands the attention of the Lake Carriers' Association or the organization of vessel masters.

A FAIR foreign demand for grain is certain to cause the long-looked-for improvement in lake business. This is shown by the advances already secured on the prospects of a movement of wheat toward the seaboard. The usual reports of the greatest crop ever known are at hand, but without a liberal foreign demand there is no great hope for the vessel owner in other lines. Iron ore that would have been mined and moved this season but for the long delay in beginning active furnace operations must be held over till next year, when, according to present indications a season will open with stocks much lighter than they have been for several years past.

JOHN NEWELL, president of the Lake Shore Railway Company, who died on Sunday last, was the moving spirit in all of the important improvements of the Lake Shore company at Ashtabula Harbor, that have made that place the greatest ore and coal shipping point on the lakes. He had other important dock projects at Ashtabula under way at the time of his death. Mr. Newell was a wonderful man, even to the heads of big corporations, who had occasion to meet him in transactions involving large sums of money, and his real ability was known only to such people and to those who were closely associated with him in the Lake Shore company.

THE REVIEW has repeatedly suggested that Cleveland vessel owners take up the matter of soft coal freights in just the way that they have gone at it. Combinations are not wholesome as a rule, but when a general business reaches the point where men who have their money invested in it must continue one branch of the trade at a loss to all interests concerned it is time that extreme measures should be applied.

New Machinery for the Chicago.

From Engineer-in-Chief Melville of the bureau of steam engineering, navy department, comes the information that the design for new machinery for the cruiser Chicago, which will be built by the department, is not sufficiently advanced to give out anything that could be reasonably like what the final arrangement of her machinery would be. While the bureau has pretty well determined that a considerable portion of her boiler power shall be in some type of water tube boiler, the particular type of this boiler has not yet been determined and probably will not be for several months.

Official Numbers and Tonnage.

The bureau of navigation, E. T. Chamberlain commissioner, assigned official numbers to the following lake vessels during the week ending Aug. 18, 1894: Steam—Gartenlaube, Buffalo, 23.53 tons gross, 11.76 net, No. 86,300. Sail—Walter, Marquette, Mich., 17.56 tons gross, 16.68 net, No. 81,486; White Swan, Marquette, Mich., 9.80 tons gross, 9.80 net, No. 81,485; Now Then, Milwaukee, 7.05 tons gross, 6.70 net, No. 130,674; Enola, Chicago, 6.13 tons gross, 5.82 net, No. 136,464.

FOUR steel engravings of U. S. war ships and a color plate of the steel steamer Gratwick will be forwarded by MARINE REVIEW, 516 Perry-Payne Bldg., Cleveland, O., to any address on receipt of \$1.

Steel Steamship Harvey H. Brown.

REPORT OF EXPERIMENTAL TRIP—MODERN COARSE FREIGHT STEAMER
BUILT BY DETROIT DRY DOCK COMPANY AND OWNED BY
NORTHWESTERN TRANSPORTATION COMPANY, DE-
TROIT, MICH—AUGUST, 1894.

Test and report by Geo. C. Shepard, Cleveland, O.

[Continued from Vol. X. No. 8]

Cards 18

Engine Backing

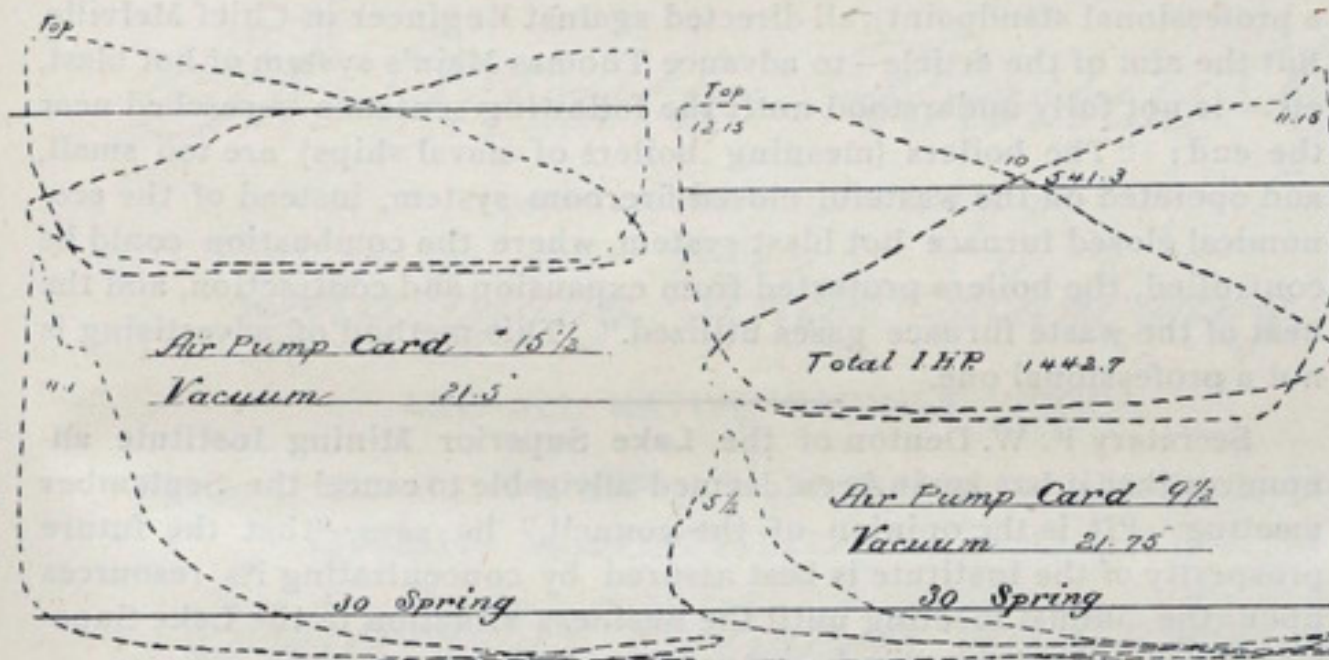
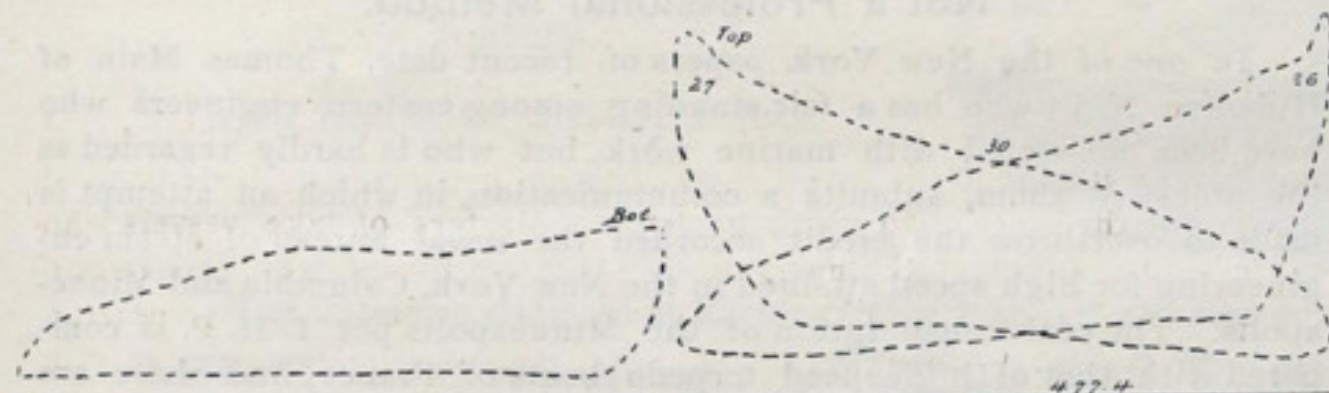
Cards 5

Cut off 5-1 1/2-2 1/2 Hrs. 85 1/4

Steam 148 Vacuum 23.5



I.H.P. 424



Cards 26

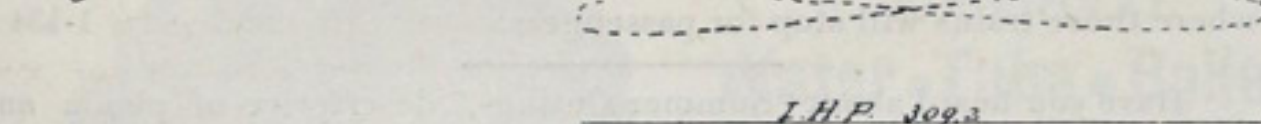
Revolutions Per Min. 77.5

Vacuum 21.5

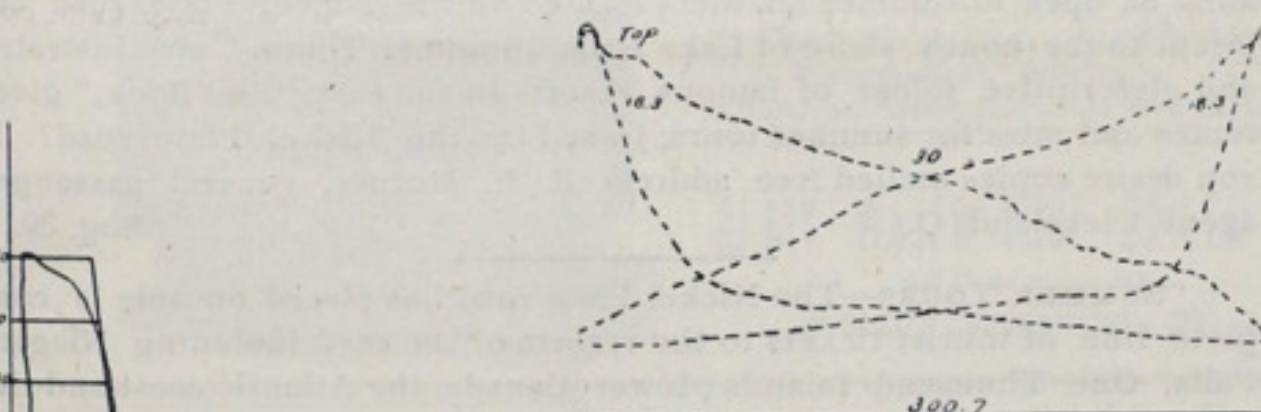
Cut off 6 1/2 2 1/2 5

Gage Pressures 150 59.2 206

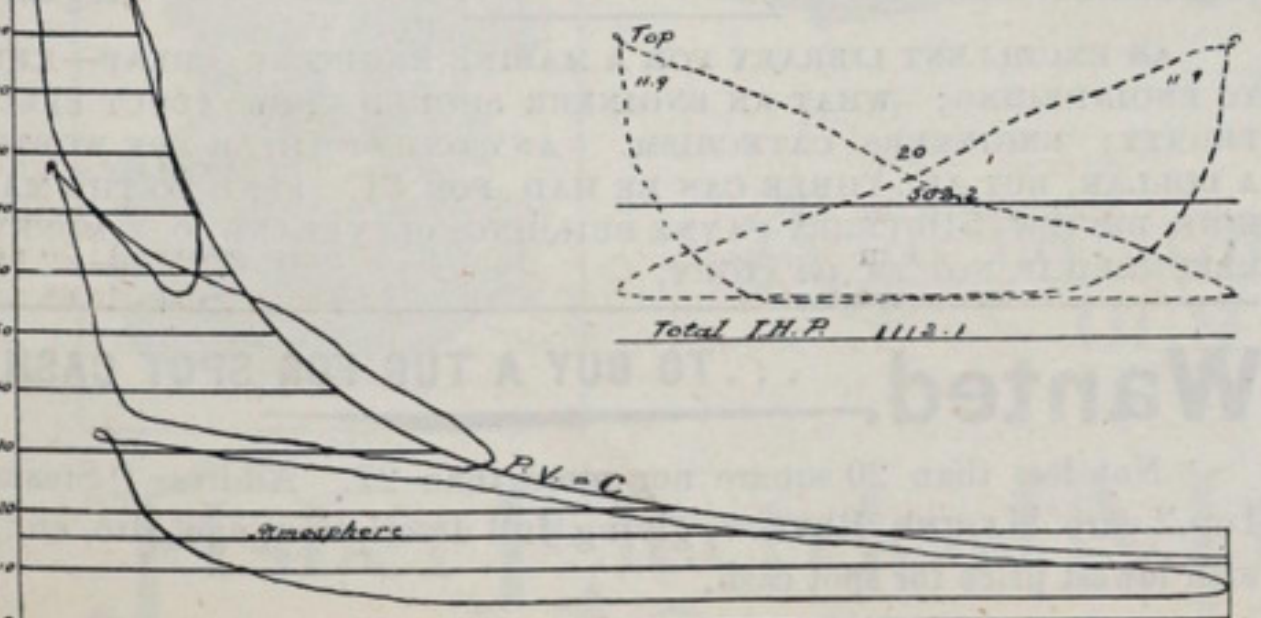
Range in Temp 70° 67.4° 100.9°



I.H.P. 309.3



300.7



Total I.H.P. 1112.1

General Results of Tests

1	Number of Test.	1	2	3	4	5	6
2	Date, July	2	6-7	7-8	8	9	10
3	Duration of Coal Test	8 ¹⁰	8 ¹⁵	5 ⁴⁰	1 ²⁰	8 ⁰⁰	4 ⁴⁵
4	Tons Displacement	2485	2485	5390	5305	5365	5335
5	Mean Steam Pressure	154.25	152.45	156.2	170.	156.25	151.6
6	" No. P. Receiver "	54.75	64.3	56.5	50.	51.3	58.5
7	" L. P. "	11.75	13.5	12.85	12	12.5	15
8	" Vacuum,	21.5	21.3	21.36	22.05	21.48	21.01
9	" Revolutions fan per min.,	431	420	418	450	431	415
10	" Temperature air outside,	67	49	50	51 1/2	69	72
11	" " "at Fan,			78	80	85.3	89
12	" " "at Furnace,	273	223	182.5	189	187	186
13	" " "in Uptake,	597	622	470.	520	487	471
14	" " "Feedwater,	147.57	149.25	148.9	146.5	148.3	152.7
15	Pressure air at Fan, inches,	2.9	2.77	2.75	3.2	2.88	2.7
16	" " "Furnace "	.4	.41	.52	.7	.55	.52
17	" " "Uptake "		21.75	3/16	3/16	1/8	5/32
18	Mean Revolutions Main Engines	84.54	81.22	82.22	86.26	81.37	77.56
19	Speed in Miles per hour,	14.51	13.94	13.46	14.06	13.2	12.63
20	Slip per centum,	.058	.056	.099	.104	.106	.107
21	Total coal burned,	19895	20600	15000	4390	19000	10000
22	Total ashes produced,	2200	2260	1625	680	2090	1100
23	Total combustible,	17695	18340	13275	3910	16910	8900
24	Water fed to boilers, lbs,	9 hrs 189751	8 hrs 157222	6 hrs 28489	1 1/2 hrs 39022	8 hrs 168997	4 hrs 77102
25	Water fed to boilers per hour,	210835	196328	214149	26014	21062	19276
26	Water from and at 212° per hour	235222	219128	22086	26140	23484	21441

General Results, Contd.

General Results, Cont'd.		1	2	3	4	5	6
27	Mean Effective Pressure H.P. ₂	56.4 55.2	42.2 43.	54.5 54.9	65.8 64.7	60.9 58.7	49.8 48.4
28	" " " " M.P.	25.7 25	22.8 22.5	26.8 25.2	28.05 26.45	25.3 24.	18.6 17.9
29	" " " " L. P.	10 9.3	9.3 9.52	10.9 10.1	11.63 9.83	10.13 9.8	11.9 12.2
30	" " " reduced to L.P.	28.19	24.41	29.25	30.91	28.6	26.72
31	Indicated Horse Power H.P.	389.4	384.2	369.8	462.1	400.8	312.1
32	" " " " M.P.	453.5	389.	452.7	496.8	423.9	299.2
33	" " " " L. P.	444.1	413.4	470.5	468.3	441.8	328.8
34	" " " " Total	12.87	1086.6	1393	1428.2	1266.5	1121.1
35	" " " " Air Pump	13.	12.7	13.25	23.	18.4	11.7
36	Percent Air Pump of Total	.0102	.012	.0095	.016	.014	.0105
37	Indicated Water consumption L.P.	12.7	12.06	11.68	12.	11.37	10.62
38	Indicated Thrust.	313800	275900	349400	353500	320900	298100
39	Coal per hour,	2397	24969	2647	2634	2375	2165
40	Combustible per hour,	2132	2223	2342	2343	2112.7	1873
41	Coal per sq. Grate surface per hour	272	28.3	30	29.3	27	23.9
42	Coal per sq. heating " " "	58	6	64	63	57	51
43	Coal per I.H.P. per hour,	1.86	2.29	1.9	1.84	1.87	1.88
44	Combustible per I.H.P. per hour,	1.65	2.04	1.67	1.64	1.66	1.62
45	Apparent Evaporation per lb. coal,	8.79	7.87	8.49	9.87	8.87	9.11
46	" " " per lb. comb.,	9.89	8.84	9.14	11.09	9.96	10.23
47	Water from and at 212° per lb. coal,	9.51	8.77	9.62	10.68	9.88	10.17
48	" " " " per lb. combustib.,	11.03	9.86	10.2	12.	11.11	11.42
49	Horse power of boilers,	682	635	692.	736	680	620
50	$\frac{Q_{33} r^3}{I.H.P.} = C$	435	457	538	520	556	549
51	Oz. Coal per ton Displacement per mile,	1.034	1.15	.579	.55	.532	.5
52	" " " net " " Cargo per mile,			88	854	82	.77

NOTE.—The following corrections and additions were made after above tables were prepared and engraved: Corrections—In test 2, the following figures should be substituted for those appearing in the table: Line 34, 1186.6; line 38, 301,330; line 43, 2.10; line 44, 1.87; line 50, 418. In test 3, the following figures should be substituted for those appearing in the table: Line 34, 1293.0; line 38, 324,300; line 43, 2.04; line 44, 1.84; line 50, 580. The figures 596 instead of 520, in line 50 of test 4 represent the only correction in data regarding that test.

ADDITIONS TO GENERAL RESULTS OF TESTS.

	1	2	3	4	5	6
I. H. P. per sq. ft. grate per hour.....	14.6	13.5	14.7	16.2	14.4	12.7
Water by meter per I. H. P. per hour.....	16.4	16.5	16.5	18.2	16.6	16.3

Around the Lakes.

A steam shovel at the Mountain Iron mine, Mesabi range, is credited with loading 142 cars of ore in ten hours on Monday last.

The Johnson Steel Company has purchased a Kelley island quarry and will use the stone in the big steel plant building at Lorain.

John E. Burchard, deputy collector of customs at Sault St. Marie, has resigned and will be succeeded by W. B. Cady, cashier of the Soo National Bank.

Capt. James Reed has recovered all of the machinery from the wreck of the steamer F. W. Wheeler, which went ashore at Michigan City in December last.

First Lieutenant Charles H. McKinstry, corps of engineers, U. S. A., has been relieved of duty with Major James F. Gregory and ordered to river and harbor duty at Duluth, Minn., under Major Sears.

Resignations of Hull Inspector Gooding and Boiler Inspector Kruger, of the Sault district, have been called for and it is thought that their successors will be Charles York of Marquette and Richard Langford, of Sault Ste. Marie.

A short meeting of the finance committee of the Lake Carriers' Association was held in Cleveland Wednesday. The invitation to the waterways convention, to be held in Toronto, Sept. 17-20, was referred to the legislative committee of Buffalo.

Capt. Dissette who was suspended from command of the Western Transit liner Hudson has been given command of the Nebraska to succeed Capt. Jackson, who takes the whaleback Pillsbury. Capt. Dissette had been in the service of the Western Transit Company for twenty-five years.

Shipments of anthracite coal out of Buffalo last week were only 45,850 tons, the lightest for any week of the season. Shipments of hard coal early in the season were quite liberal and it is not expected that there will be any improvement in that branch of the lake trade until the fall movement sets in.

About one-fourth of the estimated cost of a 12-foot channel in Niagara river down to Port Day has been secured in the river and harbor bill just passed by congress. This will insure to North Tonawanda a channel deep enough to accommodate the lumber carriers. Bids for the work will be solicited at once.

The steamer Norwalk was released from North harbor reef, Lake Erie, by the Swain Wrecking Company's wrecker Saginaw. The damages were slight. Attention is called to the illustration of their wrecking steamer Favorite on page 16 of this issue. In connection with this illustration a calendar for the current month is used in each issue.

A shipment of 350,000 feet of Georgia yellow pine from Augusta, Ga., to Lake Linden, in northern Michigan was forwarded from Chicago a few days ago on the steamer J. D. Marshall by P. H. Fleming & Co. The lumber goes to the Calumet and Hecla Mining Company. This shipment is the first of its kind on record. As the destination is in the heart of the pine country, the shipment is an odd one.

President James J. Hill of the Great Northern Railway and Northern Steamship Company found time on Thursday last to make the trip by rail from St. Paul to Sault Ste. Marie, and at the latter point took passage on his big boat, the North West, for the return to Duluth. It was his first trip on the steamer, aside from a ride of an hour or two on an excursion out of Duluth at the time of the inaugural ceremonies.

Commander C. V. Gridley, U. S. N., has succeeded Commander Green as inspector of the Tenth light-house district, with head-quarters at Buffalo. Commander Green has been placed on waiting orders, Commander John J. Reed, who succeeded Commander Heyerman as inspector of the Eleventh light-house district with headquarters at Detroit, has also left the lakes. He is now on his way to the Mare Island navy yard, San Francisco, where he will take command of the receiving ship Independence.

One of the Detroit papers directs attention to duplications in names of vessels, as in cases like the wooden and steel steamers Gratwick and the several Edward Smiths of Buffalo, and makes the very good point that the owners of these boats, who know where they are and can distinguish them at all times, are not alone interested in them. This duplication of names causes confusion in the minds of shippers and consignees, and of the families of the crews, where the names are reported in the papers without a distinguishing mark.

Arrow is the name selected for the side-wheel steamer to be built by the Detroit Dry Dock Company for A. Wehrle of Midale Bass, and which is to take the place of the City of Sandusky on the route between Sandusky and Put-in Bay. Dimensions of the boat have been fixed at 174 feet over all and 28 feet beams, with a draft of only 6 feet. The engine of the City of Sandusky, which is to be placed in the new hull, is said to be one of the best beam engines of its size on the lakes. It will be overhauled before the change is made. A smart boat sailed by Capt. Atwood on the Detroit and Sandusky route in the early 50's was named Arrow.

The Duluth chamber of commerce, always ready to assist any plan for

the encouragement of Lake Superior commerce, has endorsed the proposition to begin, as soon as possible after the completion of the new Sault canal lock, the enlargement of the present lock. That the beginning of such an improvement will be almost an absolute necessity within a few years, there is no doubt, and a general expression of opinion on the part of the entire shipping interests of the lakes will soon follow the present agitation of the subject.

When negotiations between the Cleveland and Buffalo Transit Company and Detroit and Cleveland Steam Navigation Company were under way, some time ago, for an exchange of side-wheel steamers, it is understood that the management of the D. & C. line was willing to give up one of the new steamers City of Mackinaw or City of Alpena for the smaller State of New York, but a price could not be agreed upon. If the deal had been made the State of New York would have been placed in the excursion business between Cleveland and Put-in-Bay, and the City of the Straits, which is now in that service, would have been transferred to the Lake Huron division of the D. & C. line.

Not a Professional Method.

In one of the New York papers of recent date, Thomas Main of Hoboken, N. J., who has a fair standing among eastern engineers who have been connected with marine work, but who is hardly regarded as the ablest of them, submits a communication, in which an attempt is made to overthrow the credit accorded the naval bureau of steam engineering for high speed attained in the New York, Columbia and Minneapolis. The coal consumption of the Minneapolis per I. H. P. is compared with that of high-speed torpedo boats of France, and there are other strange features in the communication (considering the source from a professional standpoint), all directed against Engineer-in-Chief Melville. But the aim of the article—to advance Thomas Main's system of hot blast, etc.—is not fully understood until the following sentence is reached near the end: "The boilers (meaning boilers of naval ships) are too small, and operated on the wasteful closed fireroom system, instead of the economical closed furnace hot blast system, where the combustion could be controlled, the boilers protected from expansion and contraction, and the heat of the waste furnace gases utilized." This method of advertising is not a professional one.

Secretary F. W. Denton of the Lake Superior Mining Institute announces that it has again been deemed advisable to cancel the September meeting. "It is the opinion of the council," he says, "that the future prosperity of the institute is best assured by concentrating its resources upon the annual meeting until the business situation in the Lake Superior mining districts again becomes active."

LINWOOD PARK, VERMILLION—To better accommodate its patrons the Nickel Plate road announces an additional train to those heretofore scheduled to stop. During the present season and the period covered by the camp meeting now in progress at Linwood park, the Lorain accommodation trains leaving Cleveland at 9:10 a. m. and 5:10 p. m. will extend those trips from Lorain to Vermillion. This will also be good news for the many picnickers who delight in the summer attractions at Oak Point, where those trains will stop for passengers.

1-134

Have you heard about "Summer Outings," descriptive of picnic and summer resorts along the line of the Nickel Plate road; "Country Homes," a list of, open to summer boarders located on the Nickel Plate road adjacent to the south shore of Lake Erie; "Summer Tours," an illustrated and descriptive folder of famous resorts in the east; "Red Book," gives routes and rates for summer tours; issued by the Nickel Plate road? If you desire copies mailed free address B. F. Horner, general passenger agent, Cleveland, O.

Aug. 30.

"SUMMER TOURS—The Nickel Plate road has placed on sale a complete line of tourist tickets to the resorts of the east, including Niagara Falls, One Thousand Islands, lower Canada, the Atlantic coast and the mountains of New York and New England. Address B. F. Horner, general passenger agent, Cleveland, O., for descriptive matter and full information.

Aug 30

AN EXCELLENT LIBRARY FOR A MARINE ENGINEER, CHEAP—KEY TO ENGINEERING; WHAT AN ENGINEER SHOULD KNOW ABOUT ELECTRICITY; ENGINEERS' CATECHISM. ANY ONE OF THESE ARE WORTH A DOLLAR, BUT ALL THREE CAN BE HAD FOR \$1. SEND TO THE MARINE REVIEW, 516 PERRY-PAYNE BUILDING, CLEVELAND, O. MONEY REFUNDED IF NOT SATISFACTORY.

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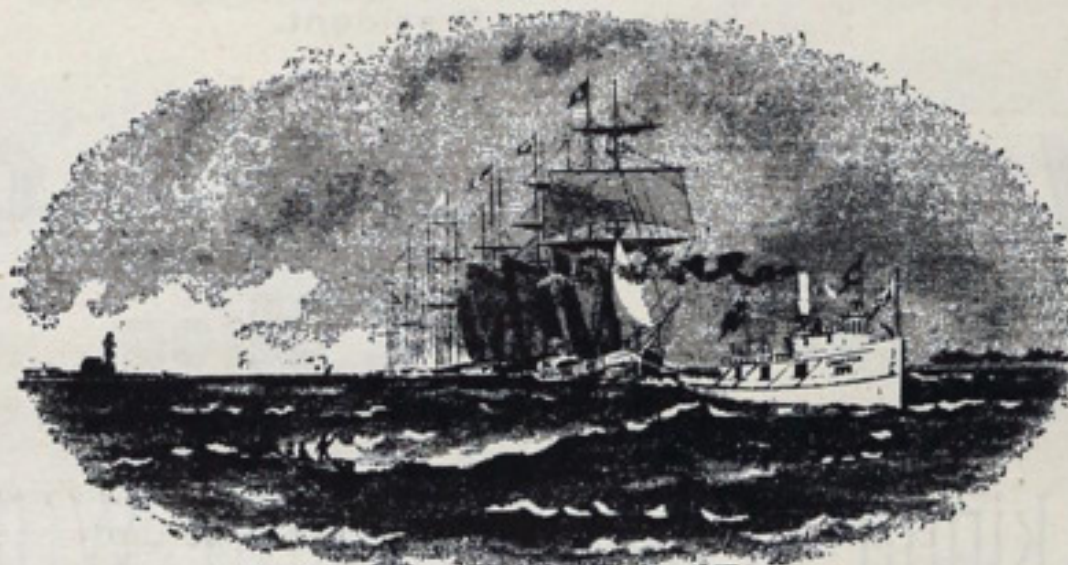
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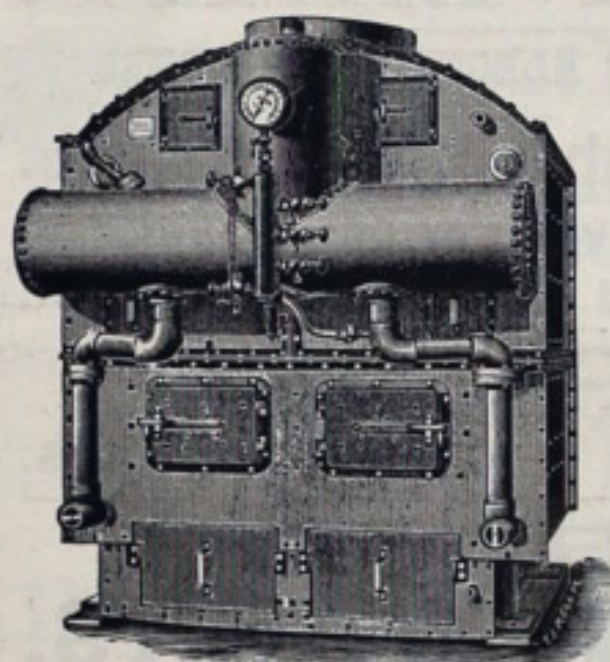
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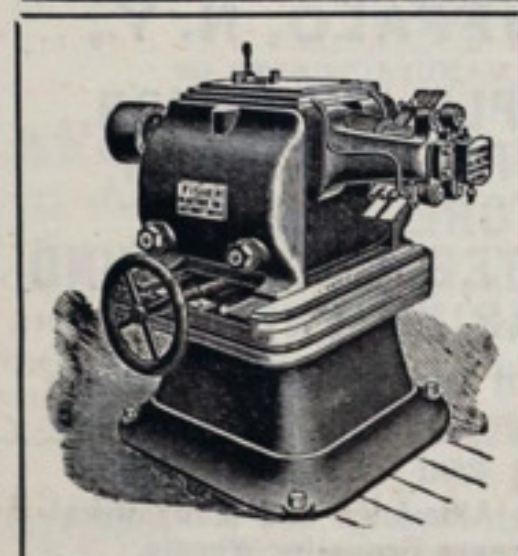
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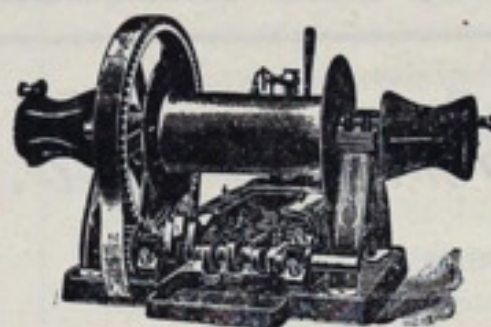
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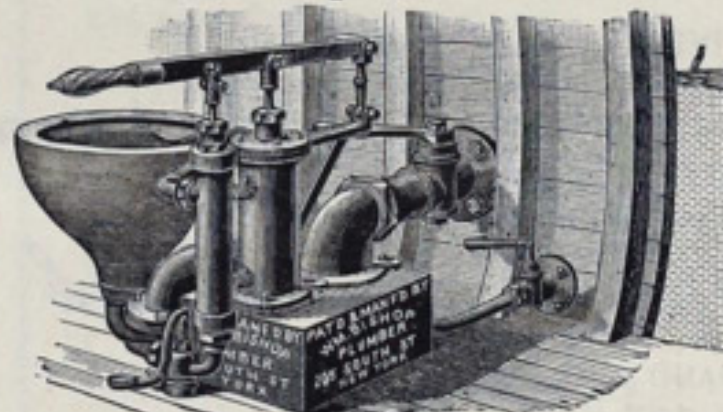
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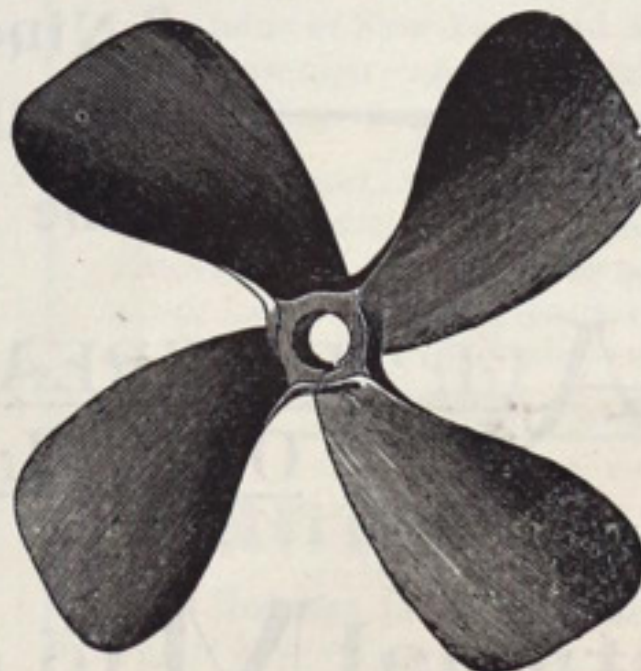
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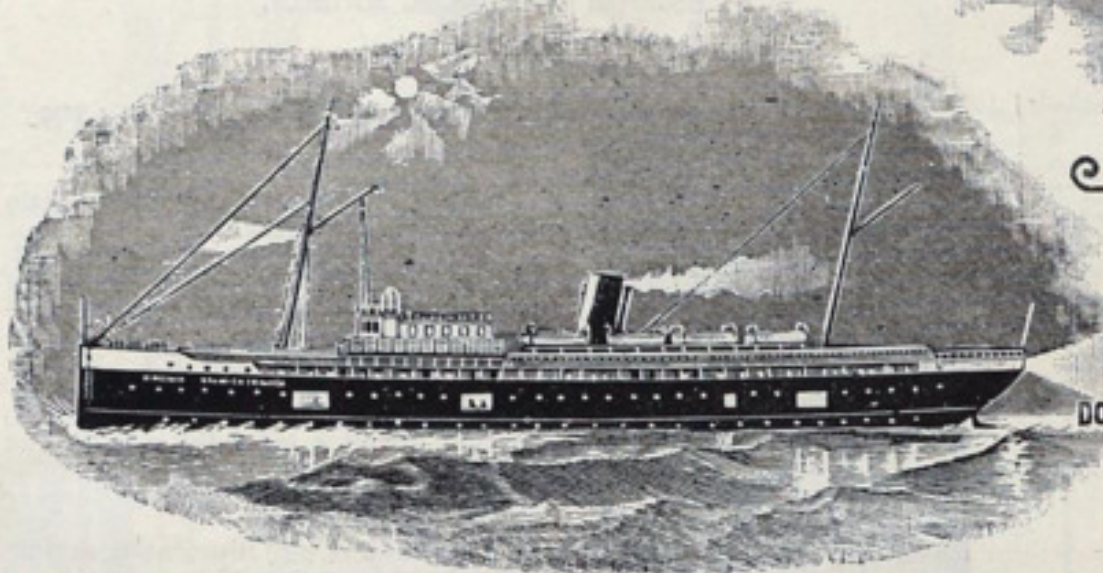
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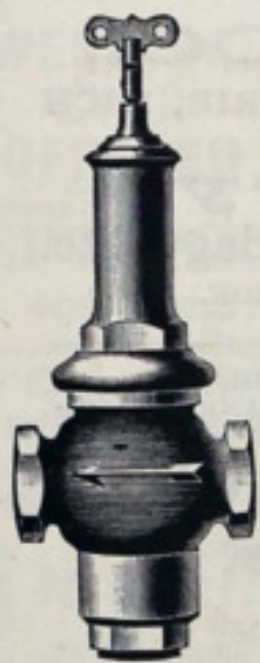
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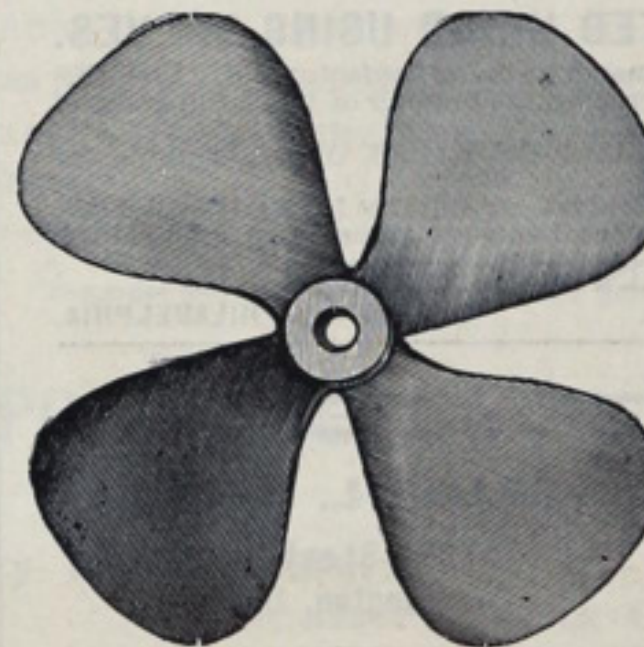
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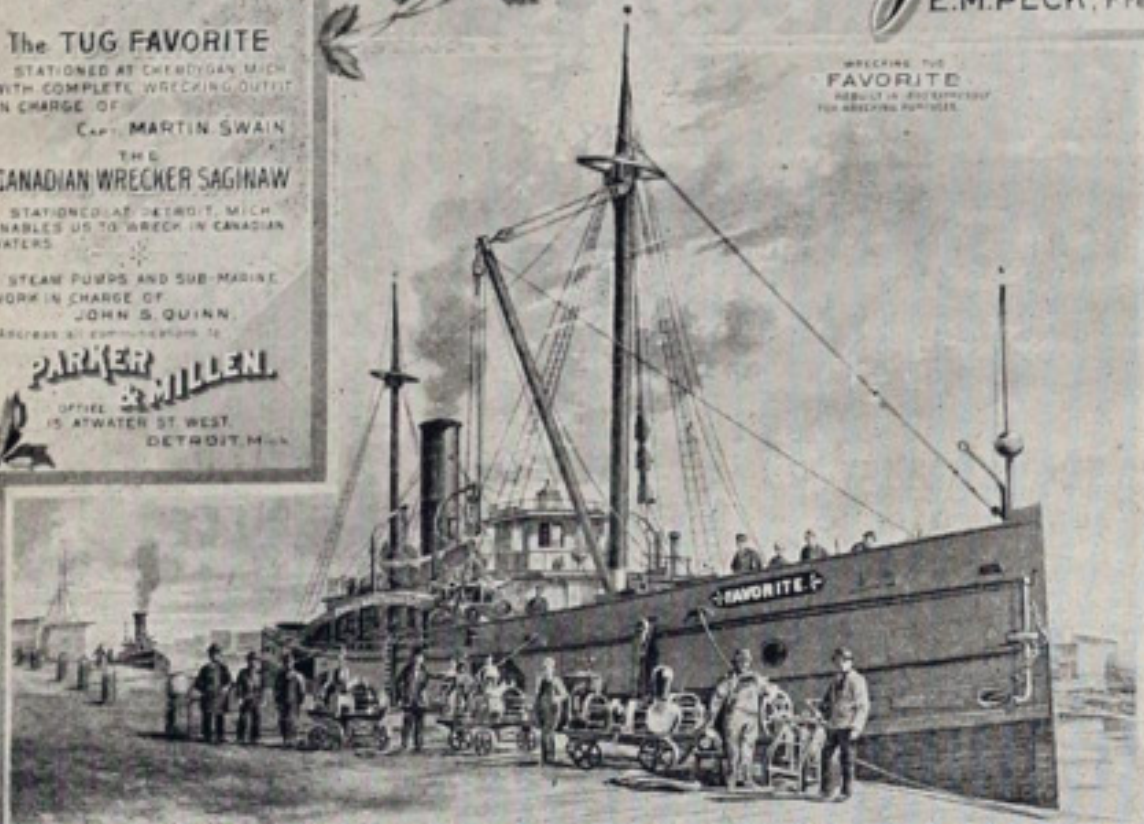
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4	5	6
7	8	9
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13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30
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1-10
1-8
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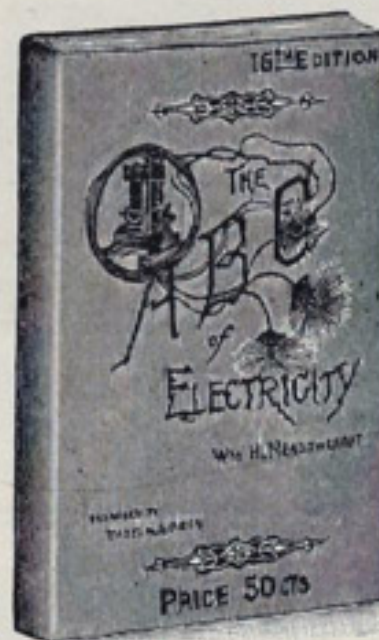
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918 F. Street,
Washington, D. C.

References: American Steel Barge Co.;
Capt. Alexander McDougall.

U. S. ENGINEER OFFICE, 34 West Congress St., Detroit, Mich., August 23, 1894. Sealed proposals for furnishing all labor, materials, and appliances, and removing a shoal of bed rock and other material from Sec. 8, Ship Channel between Chicago, Duluth and Buffalo, will be received here until 2 p. m., standard time, September 22, 1894, and then publicly opened. All information furnished on application. O. M. POE, Col. Corps of Engineers.

U. S. ENGINEER OFFICE, 34 West Congress street, Detroit, Mich., August 6, 1894. Sealed proposal for Operating Machinery for the 800-foot Lock, St. Mary's Falls Canal, will be received here until 2 p. m., September 5, 1894, and then publicly opened. All information furnished on application. O. M. POE, Col. Corps of Engineers.

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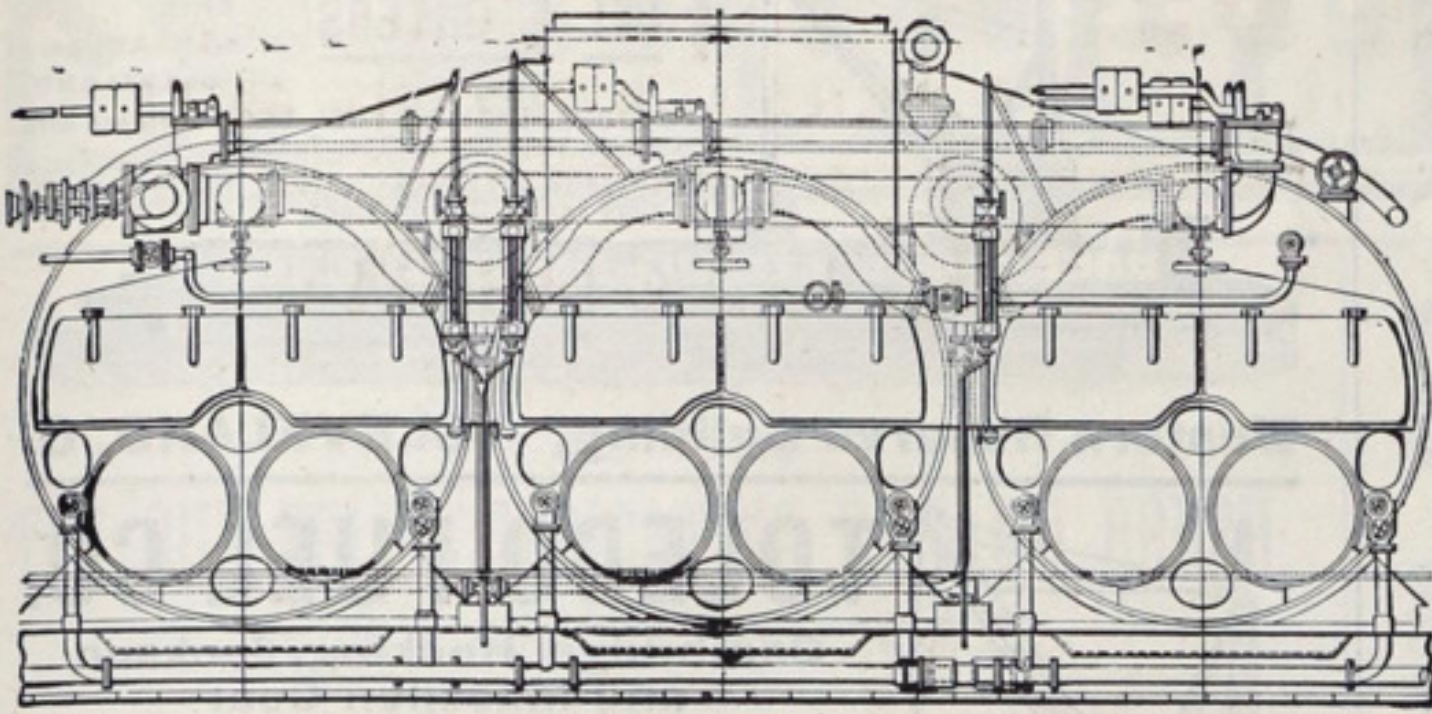
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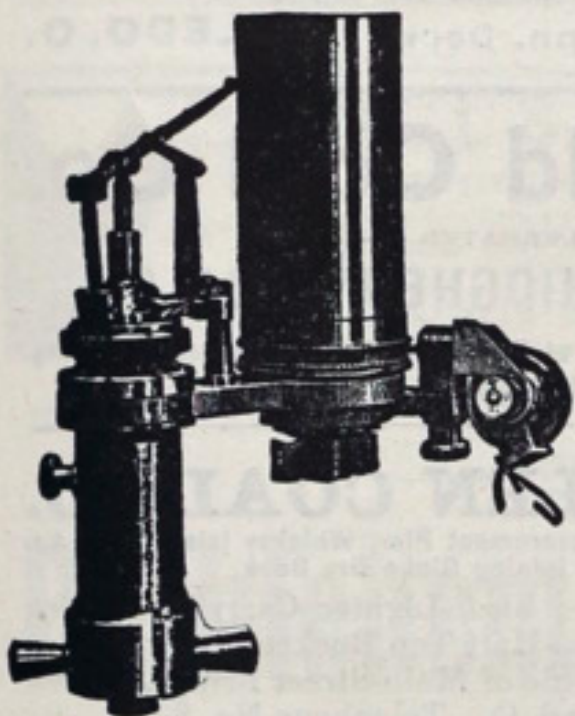
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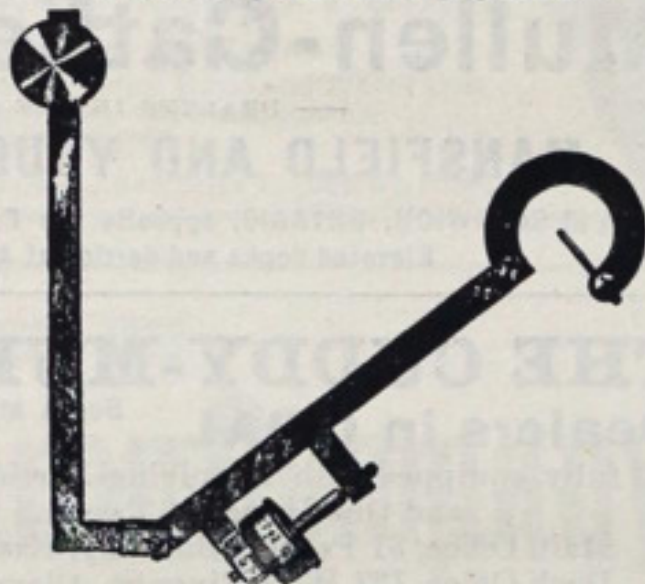
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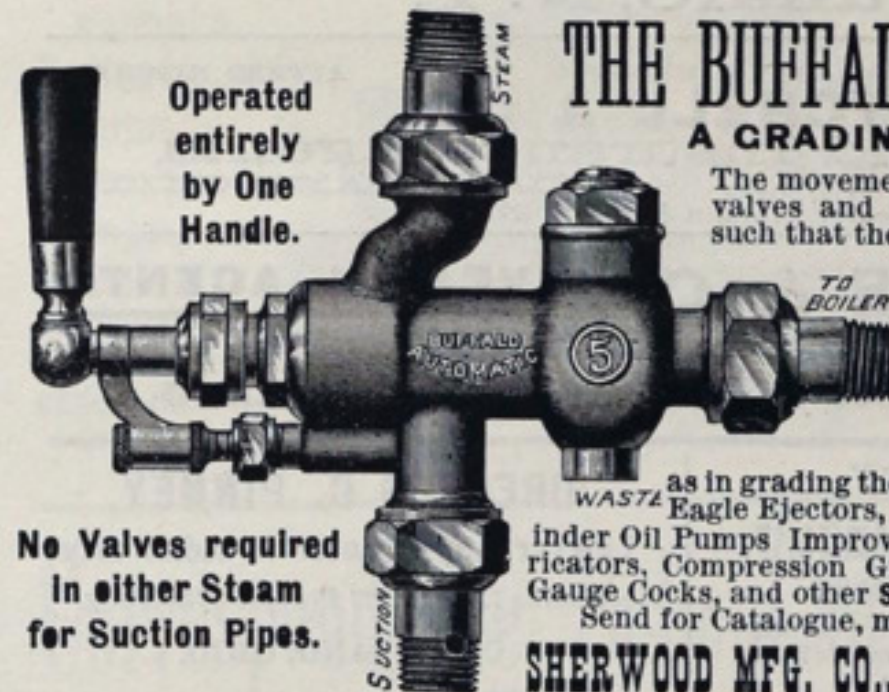
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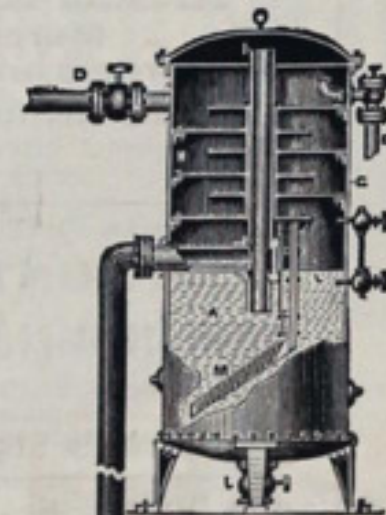
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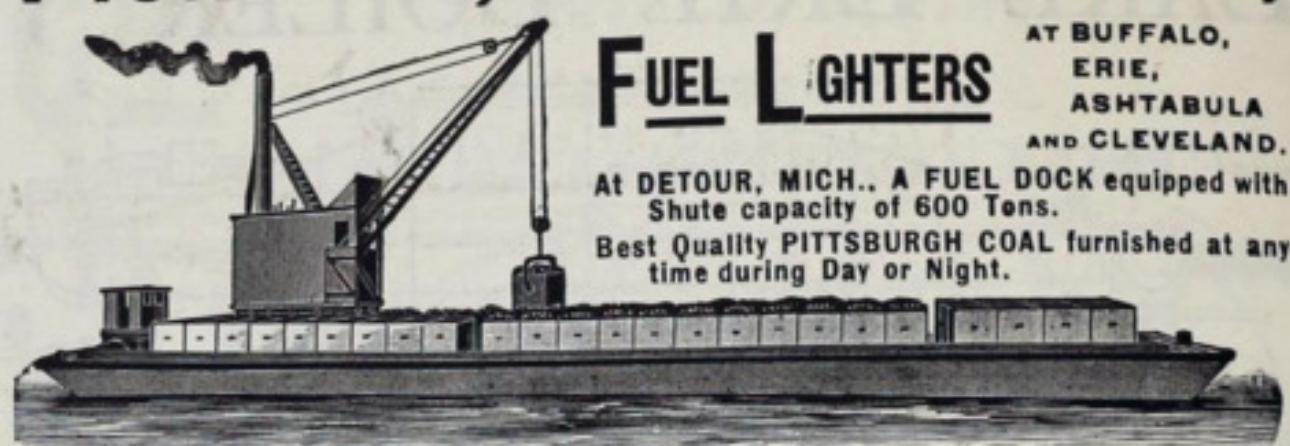
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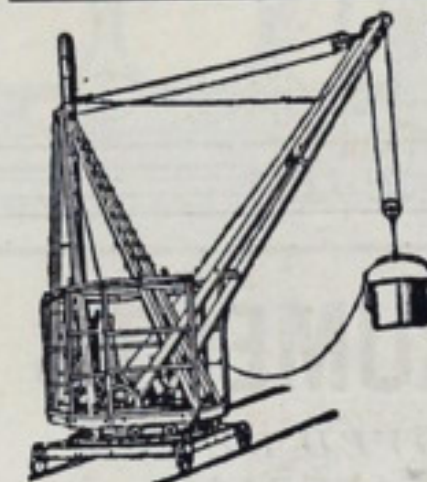


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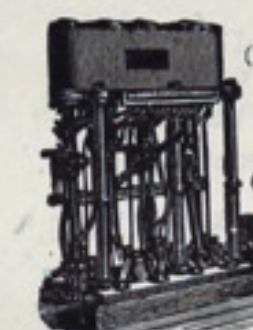
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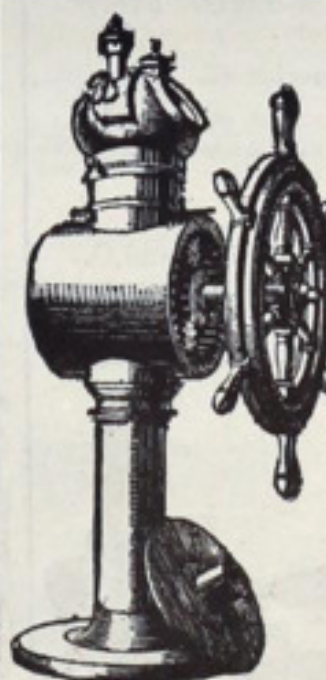
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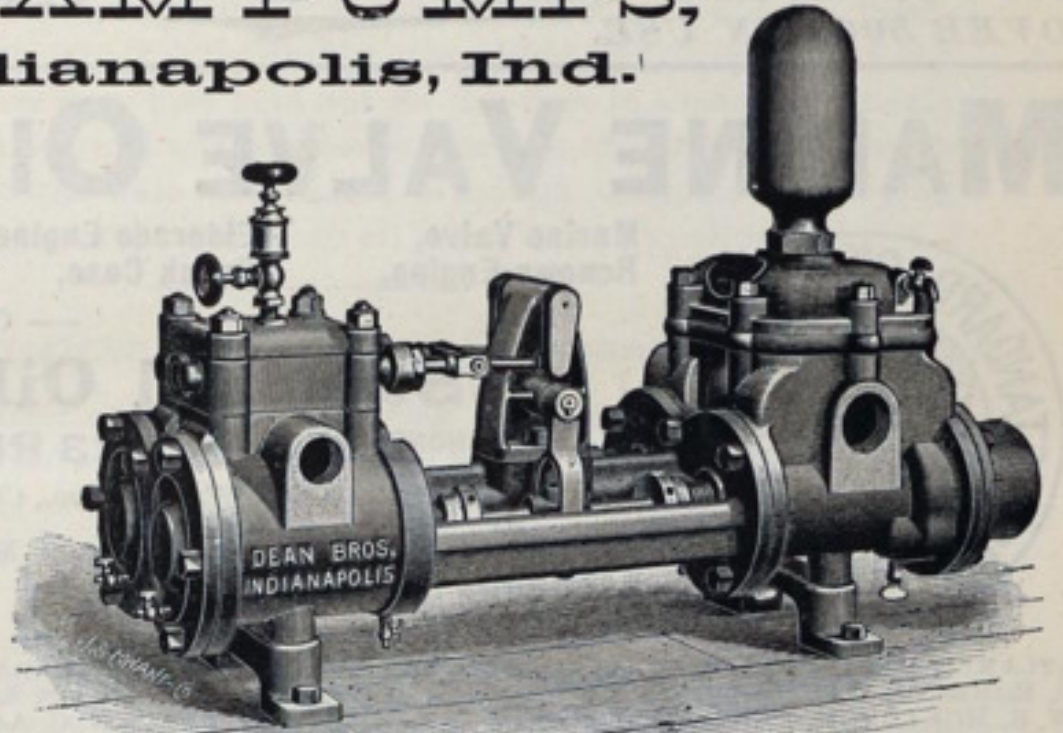
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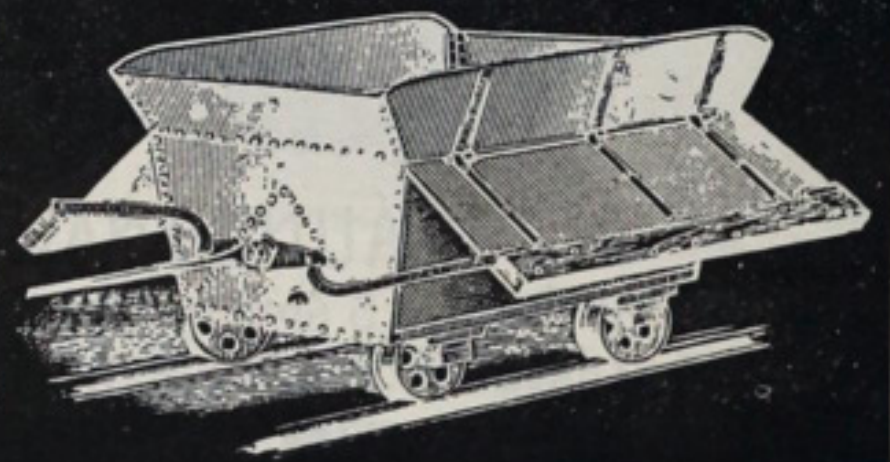
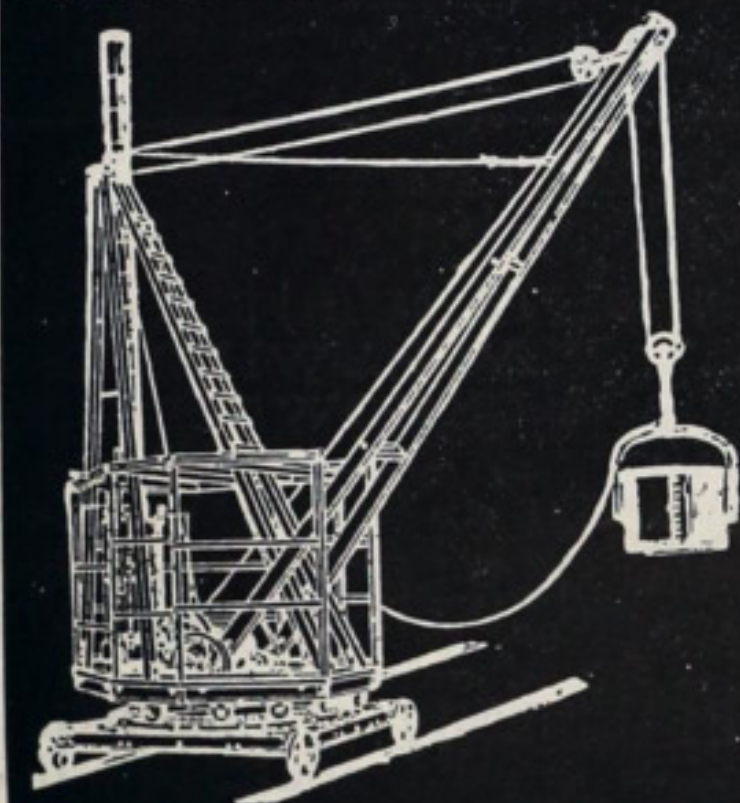
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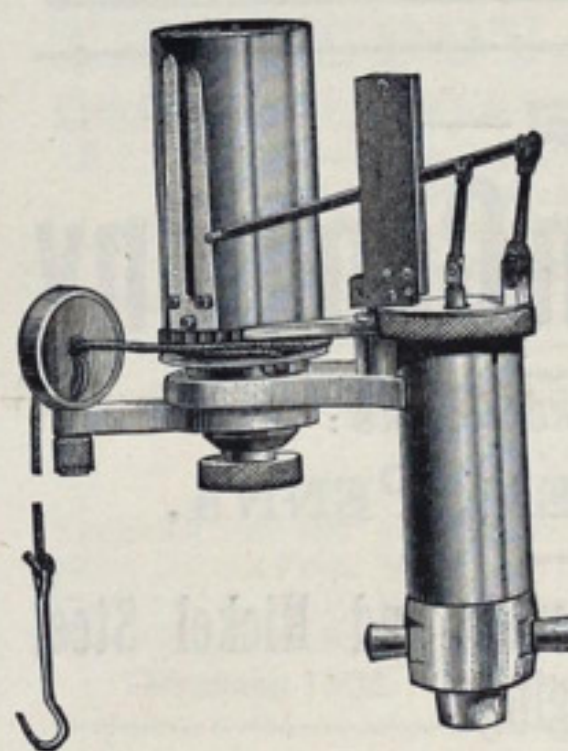
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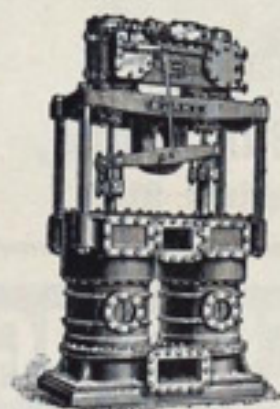
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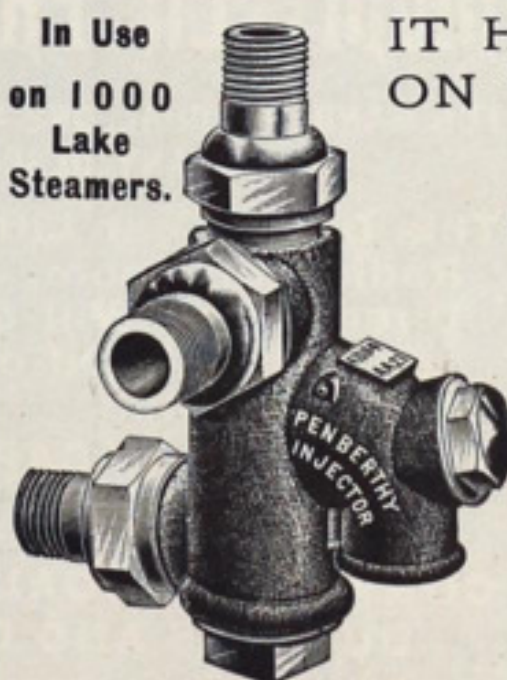
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